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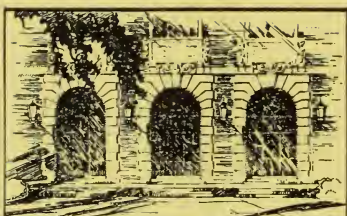
ANNUAL REPORT
CITY OF KALAMAZOO.
1885

DR. H. B. HEMENWAY.





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1884/85

ANNUAL REPORTS

—OF THE—

CITY OF KALAMAZOO

—FOR THE—

FISCAL YEAR ENDING APRIL 13,

—1885—

21778

MAYOR, ALDERMEN AND OFFICERS
—OF THE—
CITY OF KALAMAZOO.
—1885—

EDWIN W. DEYOE, Mayor.

ALDERMEN.

GEORGE FULLER,	- - - - -	Term ends April 12th, 1886
FRED HOTOP,	- - - - -	Term ends April 12th, 1886
OTTO IHILING,	- - - - -	Term ends April 12th, 1886
JOHN W. ROSE,	- - - - -	Term ends April 12th, 1886
GEORGE C. WINSLOW,	- - - - -	Term ends April 12th, 1886
JACOB LEVY,	- - - - -	Term ends April 11th, 1887
EDWARD McCAFFREY,	- - - - -	Term ends April 11th, 1887
JOHN W. ROWLEY,	- - - - -	Term ends April 11th, 1887
JOHN F. SCHLICK,	- - - - -	Term ends April 11th, 1887
DANIEL WATERBURY,	- - - - -	Term ends April 11th, 1887

OFFICERS.

LAWRENCE N. BURKE, Judge of Recorder's Court.	
FRED CELLEM, City Clerk.	A. SYDNEY HAYES, Treasurer.
JOHN LAMB, Marshal.	WM. G. HOWARD, City Att'y.
WM. MOTTRAM, M. D., Health Officer.	
GEO. S. PIERSON, City Engineer.	F. J. BALLART, Ass't Engineer.

Fire Department Officers.

BYRON J. HEALY, Chief Engineer of Fire Department, and Captain of
Paid Department.
WILLIAM H. ATHEY, Ass't Chief Fire Department.

Water Department Officers.

JOHN MCKEE, JR., Water Commissioner.
GEORGE H. CHANDLER, Chief Engineer and Supt. at Water Works.
CHARLES A. HEALY, Assistant Engineer.

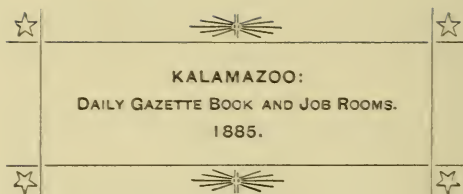
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1884/85

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KALAMAZOO:
DAILY GAZETTE BOOK AND JOB ROOMS.
1885.

ANNUAL REPORTS

FOR THE YEAR ENDING APRIL 13,

1885.

The Council met pursuant to adjournment on Monday, April 13th, 1885.

Mayor Potter called the Council to order at 2 o'clock, P. M.

PRESENT—Aldermen Fuller, Hotop, Ihling, Lakey, Page, Palmer, Rose, Schlick and Winslow.

The regular order of business was proceeded with, the Mayor then stating the special order of business would be hearing the Annual Reports of the Standing Committees and the City Officers.

Report of the Committee on Finance.

To the Honorable the Mayor and City Council:

GENTLEMEN—Your Committee on Finance respectfully submit the following report of the financial transactions of the first fiscal year of our city.

The receipts from the various departments have been very satisfactory.

From our settlement with the City Treasurer we find he has collected \$54,648 82 city taxes and returned as delinquent and double assessed \$2,322 49.

Special credit is due our Treasurer, together with the chairman of the Committee on Sewerage, for the successful collection of sewer taxes, returning only \$125 75 from the total amount of \$8,548 67 as assessed during the year. The large amount of sewer work accomplished the past year has cost the city only \$660 99, the principal cost having been paid by property owners adjoining the lines built. There is now to the credit of this fund \$8,072 65, which in accordance with our charter can be expended for no other than sewer purposes, therefore the good work of sewerage our city can be continued several years without making any appropriations in the general city tax for this purpose. By the close attention of our Water Commissioner and the revision of water rates, the receipts from this department have been materially increased, so that they have within a very small amount paid the running expenses of the department.

Our City Clerk has looked carefully to the collection of licenses, in consequence the receipts from this source are much in excess of previous years.

Your committee, together with Alderman Palmer, as appointed to meet the officials of Kalamazoo Township for the purpose of agreeing upon a divi-

sion of the monies and other property belonging to the township at the time of the organization of our city government, entered into an agreement with said township in accordance with the statute in such case provided, dividing in proportion to the valuation as assessed in last assessment roll. Under this agreement the city receives 81½ per cent. of the money on hand, and such as was due the township at that time upon delinquent taxes. We have thus far received from this source \$463 84.

We report receipts from all sources as follows:

Balance received from Village Treasurer.....		\$10,026.35
City Tax, one per cent upon valuation assessed.....	\$56,971.31	
Less amount returned and double assessed.....	2,322.49	54,648.82
Sewer Tax, as assessed.....	8,548.67	
Less not collected.....	125.75	8,422.92
Town of Kalamazoo, division of funds.....	304.04	
“ “ Delinquent Tax.....	159.80	463.84
Dog Tax.....		186.00
Liquor Tax.....		13,107.60
Water Rates.....	9,495.07	
Taps, etc., by Water Commissioner.....	211.34	
Oil, etc., sold at Water Works.....	62.47	9,768.88
Licenses.....		1,050.64
City Scale Receipts.....		343.21
Fines, Recorder's Court.....		11.00
Riverside Cemetery, from Town Treasurer.....	353.88	
“ “ “ sale of lots.....	478.50	832.38
Street and Bridge Committee—Street Railway Co.....	198.00	
“ “ “ sidewalks built and stone sold.....	113 68	
“ “ “ old plank, etc., sold.....	84.92	396.60
Sundries.....		63.00
Total.....		\$99,321.24

DISBURSEMENTS.

Village Orders paid.....	\$ 696.94
Expended by Fire and Water Committee.....	27,365.88
“ Street and Bridge Committee.....	18,918.76
“ Parks, Public Grounds and Building Committee.....	1,492.72
“ Riverside Cemetery.....	456.53
“ Street Grades and Sewerage Committee.....	9,321.86
“ Opening of Douglas Avenue.....	500.00
“ Police Committee.....	5,202.84
“ Health Committee.....	623.58
“ Gas Committee.....	4,265.19
“ Printing Committee.....	1,191.33
“ Peterman case—Judgment and costs.....	1,183.81
“ Bonds and Interest.....	5,500.00
“ Interests on Loans.....	432.04
“ Recorder's Salary paid.....	1,437.50
“ Incidentals and Furniture.....	1,493.50
“ Salaries—Clerk and Attorney.....	1,512.46
“ Office Supplies.....	1,215.00
“ Supervisors' Fees.....	1,262.42
“ Registration and Election.....	554.81
“ Engineering.....	1,851.12
	\$86,478.29
Total Receipts.....	\$99,321.24
“ Disbursements.....	86,478.29
Balance on hand.....	\$12,842.95
Subject to Outstanding Orders.....	267.70
Actual Cash in hands of Treasurer.....	\$13,110.65

The vouchers, water bonds and interest coupons duly cancelled are in our hands and are herewith presented for your disposition. This is the last payment of our bonds, leaving our city entirely free from indebtedness. This is a fact which our citizens deserve to be congratulated upon. We venture to say that no other city in our state with the public improvements that we enjoy can compare with this showing.

We congratulate the several committees upon their judicious management, who have all expended less than their appropriations.

We have carefully examined the accounts and vouchers of all city officers having charge of collections and disbursements of monies in the several departments and the same have been found correct. The books in each department have been kept in a systematic manner and the duties of the various officers carried out thoroughly.

The City Clerk and Water Commissioner deserve especially to be complimented for the efficient manner in which they have fulfilled the duties of their offices. Your committee desire to thank our Honorable Mayor for his courtesy and assistance rendered in the discharge of our duties. Also the several councilmen and other city officers for the economical management of their departments.

OTTO IHLLING,
GEO. C. WINSLOW,
FRED. HOTOP,

Committee on Finance.

Report of the Committee on Fire and Water.

To the Honorable the Mayor and City Council :

GENTLEMEN—Your Committee on Fire and water respectfully submit their annual report for the fiscal year ending April 13th, 1885.

In taking charge of the Fire and Water Departments of the city, your committee duly appreciate the responsibilities devolving upon them, realizing that questions of great importance connected therewith would in all probability arise during the year now closed. Our anticipations were found to be correct. While fully appreciating all that had been accomplished by the former committee, the departments being found in very excellent condition both as regarded the permanent improvements completed, and the supplies on hand, we, as a committee, believed much might be done to increase the efficiency of the Water Department; the Fire Department being supplied with new apparatus and very thoroughly organized needed but little attention at our hands. Based upon this idea of farther security and efficiency in the Water Department, we felt the first step essential to take was to determine the possibility of obtaining a larger supply of water if such should be needed to reinforce our present well, provided any farther improvements were decided to be made on the present Water Works site. The investigations made in this matter gave such satisfactory results, a carefully prepared report of the same was made by Engineer Chandler and is on file in the Clerk's office. This report was submitted to your honorable body on the 17th day of June, 1884, and was pronounced conclusive as to the obtaining a supply near the site of the present works.

Our next step was to examine the condition of the Water Works building, which was found in a dangerously delapidated state and it was determined to recommend the building of a new pumping station of sufficient size to accommodate larger pumping engines. After some delay the report was made and by you adopted, the committee being authorized to contract for the building of a brick Pumping House. This was done, and now we have one of the very best class of buildings used for such purposes.

Having ordered the building, we felt desirous of making arrangements to provide engines and pumps to place therein, as the machinery used was not adequate to give a full supply of water except by using the Worthington pumps, their use involving a largely increased cost. Deliberating on these matters it was deemed expedient to make investigations on the pumping

machinery question and we reported to that effect. The special committee appointed on our recommendation have had a very laborous task and have performed the duty assigned to them in a very satisfactory manner. As reports have been made to you from this committee it would be superfluous to say more than this, that a very desirable class of Vertical Compound Condensing Engine has been ordered for the works, the capacity of such engine being 3,000,000 gallons in each 24 hours and capable of doing its work at a much reduced cost to those now in service.

The matter of engines being concluded, we turned our attention to the question of main extensions and enlargements, requesting the Water Commissioner and Chief Engineer of the Water Works to make a report of the condition of all the mains, relative to capacity and distribution, with such recommendations as they deemed expedient. These officers submitted a report covering all the points named and recommended an increase of size in the main feeders on certain streets leading from the works and a general plan for the future water distribution. We deemed it so valuable a report that we adopted it without alteration and recommended the system be carried out as the requirements of the city in future demanded. We ask that such report be incorporated with this our annual report, and be printed for the information of our citizens.

The subject of Water Mains is one of great importance, as our only dependence is the direct pressure system, and a short supply of water might in case of fire result disastrously to our city. Our fire department is all it should be, but our men must have water to fight the fire fiend or their best efforts will be unavailing. Large mains are the sheet-anchors of safety.

It will be found by the report of the Chief Engineer of the Fire Department that the loss by fire has been very small during the past year, which is attributable to the vigilance of the department, not only the paid, but the volunteer corps.

Your committee have been saved a great deal of labor and anxiety in their management in consequence of the thorough efficiency of the officers belonging to the departments; they each and all have been faithful to the trust given, and have endeavored to fulfill all the requirements made on them in their various positions.

Consequent on their efficiency we are gratified to report all branches of the various departments in first-class condition, and would respectfully refer you to the reports made by Water Commissioner Cellem, Chief Engineer and Superintendent Chandler and Chief Engineer Healy, in which will be found every detail necessary for a full understanding of the year's expenditures and receipts, these together with the carefully prepared tables of City Clerk Strong complete the history of the departments for the year now closed. We herewith summarize the receipts and expenditures as follows:

RECEIPTS.

Water Commissioner's Office—Water Rates.....	\$9,495.07
“ “ “ —Taps.....	187.00
“ “ “ —Sundries.....	24.34
“ Works “ “	62.47
Total.....	<u>\$9,768.88</u>

EXPENDITURES.

Water Works.....	\$16,166.01
Main Department.....	3,042.44
Fire Department.....	8,178.03
	<hr/> \$27,386.48
Current Expenses.....\$18,805.93.	Permanent Improvements.....\$8,580.55.

The amount appropriated to the Fire and Water Fund was \$30,000. The expenditures as shown is \$27,386 48. This leaves a credit to the fund of \$2,613 52.

In closing this report, the committee feel justified in recommending for the consideration of the incoming Fire and Water committee the various reports made throughout the past year by us in relation to matters herein referred to, for the purpose of determining the grounds upon which recommendations had been made, which we trust will fully meet their approval and indorsement. All matters have been closed up except the propositions received for the pipe necessary to lay the large water main on Burdick and Main streets, which we consider of such a favorable nature, we strongly recommend early action to be taken in the premises.

Trusting the results of the committee's labors have been satisfactory to your honorable body, with thanks to each member of the Council for their uniform kindness and consideration, and to the officers of the departments for their valuable aid in carrying out the plans of your committee, we respectfully submit this, the first of the City Fire and Water Department reports.

C. H. BIRD,
HALE W. PAGE,
GEO. C. WINSLOW,
Committee on Fire and Water.

Special Report of the Committee on Fire and Water,
Together with that of the Water Commis-
sioner and Chief Engineer of
Water Works.

To the Honorable, the Mayor and City Council:

GENTLEMEN—Your Committee on Fire and Water, deeming it their duty to lay before your honorable body a report of the present condition of the city water distribution and the relative value of the same for fire protection, would respectfully call your attention to the following facts connected therewith:

First, That the system of piping has been, to a great extent, calculated for domestic supply only, not taking into consideration the future growth of districts where laid, thus depriving the Fire Department of the use of efficient fire streams where valuable property is exposed, and rendering our situation critical if any serious conflagration should occur. We have reviewed reports of former committees, together with the reports made to the Village Board by J. D. Cook, of Toledo, and W. R. Coats, of our own city, on the subject, and

find that they urge the great necessity for an increase in the size of the City Water Mains, and have based their recommendation on the fact that the fire protection afforded was entirely inadequate to the requirements of the city.

Second, That the small pipe through which a great portion of the water is pumped, in consequence of the friction attendant upon the passage of water through small orifices, is highly objectionable, both as relates to the decreased water pressure at a point remote from the works, and the increased water pressure necessary to be kept at the works to obtain even this limited supply.

Becoming satisfied that these facts were indisputable, and that a radical change must be made with reference to the whole matter of water distribution, we requested that a report be submitted to the committee by the Water Commissioner and the Chief Engineer of the Water Works, in relation to the subject, the report to contain all information possible on the present lines, and the nature and extent of changes and enlargements of old and new lines of pipe, which, in their judgment, could recommend, as covering the question of thorough fire protection and enlarged supply for districts outside of the central portion of the city.

This report, together with carefully prepared estimates, has been submitted to us, and was of such character, the committee feel satisfied that the officers in charge of the department made a very careful study of the subject and have covered the ground in their recommendations which meets our fullest approval. We therefore submit their report herewith, desiring the same to be considered as a part of this committee's report, and we recommend that the mains therein reported and designated on the accompanying map by solid red lines, be laid as indicated, and that the construction of the Main Feeder from the Water Works to Kalamazoo avenue commence at as early date as possible the coming season, following with the other lines as circumstances may determine.

Considering this subject one of great importance, we ask that immediate action be taken by the council, with a view to relieve the critical situation at present existing.

CHAS. H. BIRD,
H. W. PAGE,
GEO. C. WINSLOW,
Committee on Fire and Water.

To the Honorable, the Committee on Fire and Water:

GENTLEMEN--Pursuant to the request of your committee we have carefully investigated the condition of the city water distributon with reference to the present mains supplying the required amount of water for fire service and the relative safety of property in the various city districts.

We find the two 10 inch main feeders entirely too small to insure, at any point north of Cedar street, a supply which would be necessary in case of a large conflagration. The main on Burdick street being reduced at Cedar

street from 10 inches to 8 inches, and from South street to Main again reduced to 6 inches, creating by such decrease of size a loss by friction of at least 40 per cent. on the original force. Consequent on this loss, it is at the present time impossible to use with safety on any line of pipe on Main street or north of that point, more than three fire streams from any one close locality; this, as it can readily be seen, would be inadequate for fire protection if a large fire occurred in any of the block property of the city. The fact that something near 20 miles of pipe is fed by two 10 inch mains, and that these mains are reduced in size at but a short distance from the Water Works, indicates the actual amount of work asked of these lines in the general supply of water. Together with this fact is to be taken into consideration the large percentage of 4 inch pipe laid, when it is a demonstrated fact a 4 inch pipe, unless on a full circuit, will supply only one efficient fire stream, it renders the situation critical and too hazardous, in our opinion, for the continuance of so small a dependence as the present water feeders are for the protection of our city, especially as the ratio of increase in the consumption of water is, this year, greater than any hitherto, and is liable to a still further increase the coming season. The reports of the Commissioner show that in many instances it has been impossible to obtain a supply of water on the third story of many of our buildings during the past summer in the day time. This in itself shows conclusively that the works were taxed to nearly their maximum capacity for domestic supply alone, and no further percentage obtainable in case of fire service being demanded. While larger engines will to some extent evercome this difficulty, it will be seen that the capacity of engines, no matter how much increased, cannot be made efficient to their full extent unless the distributing mains are increased in size relatively, and the further economy of saving all the percentage possible on friction, is too apparent to need any argument in favor of large mains. While recognizing all these facts as indisputable, we deem it also a matter to be well considered, in recommending sizes for the main feeders, to look at the future requirements of our city and provide such capacity as will insure a permanency of the lines laid, and save the expense of future changes or enlargement. Our past experience, it seems to us, should teach a lesson that small pipes, used as main feeders, are no economy. Based on these conclusions, we have on all lines herein recommended made provision for the extension of cross lines, and the junction of new feeders, provided such are found necessary in the future, the small percentage of additional cost compared to the advantages thus gained warranting in our judgment the increased expenditure.

In order the more readily to demonstrate the plan of distribution under the changes and enlargements recommended, we have, through the assistance of Mr. Pierson, City Engineer, completed a map showing the whole of the city water mains, together with the size of each, and location of all fire hydrants.

On this map will be found the original lines marked in blue ink and those recommended for laying in the immediate future in solid red, while those indicating lines needed to complete the system are indicated by broken red lines. Included in this division is found a line contemplating the establishment of a force main in case the reservoir or standpipe system should be adopted as an auxillary to the present means of supply.

While submitting for your consideration all the lines as marked on the maps as new lines, we have confined the matter of estimates to such as in our judgment are imperatively necessary for the protection of the city at the present, deeming it unwise to estimate on lines unlikely to be laid during the year 1885.

Our first recommendation is the laying of a main feeder on Burdick street from the Water Works to Main street, thence north on Rose street to Kalamazoo Avenue, as follows:

From the Water Works to Vine street, the size of main to be 20 inches, and from Vine street to Main street, 16 inches, removing old pipe and using same position for new main; on Main street, from Portage to Rose street, a 16 inch main, taking up the 6 inch now in position, and on Rose street, from Main street to Kalamazoo avenue, a 16 inch main on east side of said street.

This gives a large feeder through the business portion of the city and will give ample protection to all block property between Church and Edwards streets, as west and east boundaries, and between Water and South streets, as north and south boundaries.

We would recommend the laying of a 10 inch main on Kalamazoo avenue from Rose street to Edwards street, and an 8 inch main on Eleanor street from Rose street to Burdick street for the protection of the large manufacturing interests located within this territory.

We would recommend the laying of a 10 inch main on Vine street from Burdick street to Portage street, there being at the present time only a line of 4 inch pipe to supply the whole of the Portage district, and without a relay it is impossible to supply any efficient fire streams except at points contiguous to Lovell street and East South street. The rapid settlement of this portion of the 4th and 5th wards justifies the expenditure for this purpose, in our judgment.

We would recommend the laying of a 10 inch main on Rose street from Main street to South street, and a 6 inch main on South street from Rose street to Burdick street, giving full circuit on this square and reinforcing the long line of 6 inch pipe on Academy street, also reinforcing the present line of 4 inch pipe on south Rose street to Vine street.

We would recommend the laying of a 6 inch main on Academy street from Rose street to West street, making junction with the new line of 6 inch pipe laid in 1883 from West street to Michigan avenue, and also recommend that such 6 inch line be continued west on Academy street to Carmel street, and on Carmel street north to Main street; also a line of 6 inch pipe on Michigan avenue from Academy street to Main street, this, it will be seen, forms a complete circuit and insures a reasonable safety to a large district covered with valuable residence property, besides furnishing revenue to the department from the water consumption by our west end citizens. The 4 inch main on west Main street is entirely inadequate to supply the large demand made on it and the indications are a largely increased supply must be furnished in the near future.

We would also recommend the laying of a 6 inch main on east Water street from Edwards street to Pitcher street, and south on Pitcher street to Main street, giving a further reinforcement for fire service in this locality, a

desirable matter considering the inflammable character of the buildings contiguous to the streets herein named. No pipe is now laid on such street.

It will be noted that in the foregoing recommendations the size of pipe aside from the large feeder is given as 10, 8 and 6 inch, and as the line at present feeding from the works through to Main street is at certain points reduced from the larger to the smaller size named, each of such sizes can be utilized in the laying of one or another of the new lines, and all the estimates given contemplates the use of such old pipes in relaying and changing. This accounts for a largely reduced cost on some of the lines as compared with others; not only does this apply to the pipe but all the gates, curbs and if necessary the hydrants can be transferred to the new position of the pipe. This, of course, applies to a great extent on all the projected lines and saves a large relative cost in perfecting the complete system mapped out for your consideration. We have not, however, as will be seen calculated on the use of 4 inch pipe except in one instance, but a large quantity of that taken out will be needed for cross lines which will be large enough to furnish domestic supply. These lines we have not considered, the influx of population will readily determine the best disposition to be made of them.

The following are mains indicated by broken lines in the map attached to this report:

1. A line of 10 inch pipe on Kalamazoo avenue from Douglas avenue to Rose street, and from Edwards street to junction of east Main street; present size on such avenue 4 inches.

2. A line of 10 inch pipe on Lovell street, from Burdick street to Portage street; present size on such street 4 inches.

3. A line of 10 inch pipe on Burdick street from the water works south to Lake street, as indicated, with a view to be further extended south as may be required; no pipe at present on this portion of Burdick street.

4. A line of 6 inch pipe on Lake street from Burdick street to Portage street; no pipe at present on this street.

5. A line of 12 inch pipe on east main street and East avenue to the East Side school house; the present size of pipe on east Main street being 4 inches, and no pipe now laid on East avenue.

6. A line of 6 inch pipe on east Water street from Pitcher to Porter street intersecting with 6 inch line on Porter street already laid thus forming full circuit of 6 inch from Water street north to Ransom street, and on Ransom street to Burdick street, thence on Burdick street to Main street.

7. A line of 8 inch pipe on Park street from Walnut street to Kalamazoo avenue, and on Church street from Kalamazoo avenue to North street; present size of pipe on Park from Walnut to Main street four inches, and north of Main on Park, no pipe laid; on Church street north of Kalamazoo avenue, no pipe laid.

8. A line of 8 inch pipe on Eleanor street, from Rose street to West street; no pipe now laid on such street.

9. A line of 6 inch pipe on North street, from Rose street to Burdick street; no pipe laid at present on such street.

10. A line of 6 inch pipe on south Park street, from Burr Oak street to

West street. This covers the turn of south Park street, along south line of the West street cemetery; no pipe now laid on such street.

11. A line of 4 inch pipe on Ranney street from Park street to West street on south side of street, 4 inch connections being already provided for such line.

12. A line of 8 inch pipe on Oak street from Lovell street to Vine street, forming a feeder for streets in district west of West street, and thus reinforcing all 4 inch pipe now laid; no pipe now laid on Oak street.

13. A line of 6 inch pipe on Dutton street, from West street to Oak street; no pipe now laid.

14. A line of 6 inch pipe on Dutton street, from Park street to Burdick street; no pipes laid except 2 inch pipe about one-half of distance.

15. A line of 4 inch pipe on Walnut street from Park street to Burdick street. No pipe laid on this street except a two inch run on one block. There being a line of 6 inch pipe on the block next south and the block next north, the line on Walnut street is required for domestic supply only. On the opposite ends of proposed line there is on Burdick street a 16 inch main, and on Park street an 8 inch main, securing ample fire protection.

16. A line of 8 inch pipe on Portage street from Main street to Lovell street, and from Lovell street to Vine street, a 10 inch line forming a complete circuit for the Portage district and giving thorough fire protection.

17. A line of 6 inch pipe on John street from Walnut street to Johnson street, and on Johnson street to Burdick street, forming a full circuit to be fed from heavy 20 inch main. No pipe is now laid on such streets.

In the southwest portion of the city lying west of West street and south of Vine street, we deemed it advisable to recommend no projected lines of pipe. For the reason it is contemplated to establish a street at or near the centre of the blocks extending from West street to Davis street and the position of the new street to Davis street would be such that a distribution of water could be made from it to all cross streets running as far south as Axtell street, but it would be impossible to fully determine the size or position of any such line, though we feel confident this location will in the future be selected to reinforce with a large main the territory south of Vine street. In relation to the territory east of Portage street we cannot readily indicate the position for future main extensions, as many contingencies may arise calculated to control future action in the premises. We can see at present a large relative value if on Vine street an 8 inch main could be extended east from Portage street to Sheldon and north on Sheldon street with a 6 inch main to Second street, but future needs in this locality must govern in this matter.

The estimates herewith submitted for consideration are based upon prices obtained from various first-class manufacturers of such material, and it is safe to say can be completed within the estimate named. Though not in the order by number of the estimate sheets, we have classified the pipe lines by the sizes and direct continuation of the same for the very obvious reason, certain lines must be completed before any practical benefit can be obtained from them as feeders or distributors. With all estimate sheets made will be found on the reverse side of such sheet a drawing of the pipe line with crosses, tees, etc., shown, together with the location of all gates and hydrants.

SCHEDULE OF ESTIMATES.

On Burdick,	20 inch main from Water Works to Vine street.....	\$4,715.83
" "	16 " " " Vine street to South street.....	6,411.97
" "	16 " " " South street to Main street.....	2,249.67
" Main,.....	16 " " " Portage street to Rose street.....	2,989.53
" Rose,.....	16 " " " Main street to Kalamazoo avenue.....	3,691.47
" Kalamazoo avenue, 10	" " " " Rose street to Edwards street.....	447.26
" Eleanor,.....	8 " " " " Rose street to Burdick street.....	243.70
" Rose,.....	10 " " " " Main street to South street.....	1,551.25
" South,.....	6 " " " " Burdick street to Rose street.....	228.10
" Vine,.....	10 " " " " Burdick street to Portage street.....	2,275.53
" Academy,.....	6 " " " " Rose street to West street.....	1,221.79
" "	6 " " " " Michigan avenue to Carmel, and on Carmel street north to Main street.....	1,836.27
" Michigan avenue, ...	6 " " " " Academy street to Main street.....	598.97
" East Water,.....	6 " " " " Edwards street to Pitcher street, and on Pitcher street south to Main street.....	1,029.02

This gives a cost for the main feeder reaching from the Water Works to Kalamazoo avenue of \$20,088.74; and for the balance of the mains recommended a cost of \$9,431.89. In these mains the cost of pipe 10, 8 and 6 inches is saved by relaying the old pipe taken up of the above sizes. Total cost of all mains, \$29,520.36.

Considering the matter of a force main to be used for reservoir or stand pipe purposes outside of the direct object of this report, and yet recognizing it may at some future time become a factor in the matter of water supply and distribution. We desire to call your attention to the fact that investigations made, point out as a desirable location for a reservoir or stand pipe the point of land on the south side of Austin street and on the east side of Asylum avenue. The altitude at this point is some 110 feet above the level at the corner of Rose and Main streets, giving 48 pounds water pressure at the Main street level which can be increased by the erection of a stand pipe of 100 feet in height to 91 pounds. As it would be improper to discuss a question not material for the present changes and enlargement submitted, we will merely add a line of 16 inch pipe in size laid on Vine street and Austin street as a force main, and a distributing line of 20 inch pipe on Asylum avenue, from the reservoir to Lovell street, and from that point decreased in size to 16 inches to Main street, and thence along Main street east to Rose street to intersect with the 16 inch main feeder recommended, indicate the most desirable route and sizes to use in case of the establishment of such reservoir or stand pipe. These lines will be found indicated in the map by a broken red line, the same as those marked as projected lines.

Trusting this report may commend itself as covering the present necessities and future requirements of our city on the question of water supply and distribution, we respectfully submit the same.

FRED CELLEM,

Water Commissioner.

GEO. H. CHANDLER,

Engineer and Supt.

Report of the Water Commissioner.

To the Honorable, the Mayor and City Council:

GENTLEMEN—Pursuant to the provisions of Ordinance No. 5, I herewith respectfully submit my annual report as Water Commissioner. On taking charge of the Water Department I found at once the necessity of laying before the Committee on Fire and Water facts relating to its government and the great embarrassments (hitherto existing relative to collections) experienced by the officers, I submitted for their consideration a draft of Rules, Regulations and Rates fitting the condition of the department, and after some delay consequent on the absence of the committee from the city on important business, these were fully approved by the committee and submitted to your honorable body and by you accepted and adopted.

Under the new system established, it became necessary to provide the office with new blanks and books throughout; this necessitated a good deal of delay and it was practically the 1st of August before the department was in running order.

Your Commissioner found great advantage from this system in the direction of knowledge it gave with reference to the actual consumption of water and the specific character of uses, the beneficial results are evidenced in the increased revenue obtained by the department.

In the rates adopted, although increased in some directions, the ratio of such increase has been judged by our citizens equitable and just in almost every instance.

The collection of rates, however, the past year, has been very difficult owing principally to the long continued cold winter freezing a large number of service pipes, and on all such lines the owners of premises feel it a great hardship to pay; another difficulty has been the straightened circumstances of a large number of our laboring class.

Herewith I report the receipts of the department:

Gross receipts of Water Tax for May term.....	\$5,576.97
Rebate and allowances.....	47.81
Net receipts.....	<u>\$5,529.16</u>
Gross receipts of Water Tax for November.....	\$4,044.04
Rebate and allowances.....	78.13
Net receipts.....	<u>\$3,965.91</u>
Receipts for Water Tax.....	\$9,495.07
“ “ Taps.....	187.00
“ “ Sundries.....	24.34
Net total receipts.....	<u>\$9,706.41</u>

I desire to call your attention to the fact that the water year does not expire till April 30th, and while it is designed that the water tax shall be collected in advance, still it is fully demonstrated to be impossible that such can be done, and the privilege of payments remains with the takers until the close of the term, and while shutting off is the remedy for the department it does not always produce the desired result, viz.: that of paying the revenue. It will be readily seen the books cannot be closed till the arrival of the day terminating the year, consequently a supplementary report is necessary for the interim between the closing of the fiscal and water year, of the city, in order to determine the total receipts of the department.

While on the subject of water collections I beg to call your attention to the fact that some 240 premises having service pipes laid are destitute of stop cocks or shut off boxes, except a few constructed of wood with no covers and in a rotten condition, making it impossible to reach the stop cock. As control of the water service lines is imperative, if revenue is to be collected the necessity for a radical change in this direction is indisputable, and I earnestly recommend that the matter of shut off boxes being placed in the front of all premises having service pipes running from the street main, be taken up and carefully considered. The surety of control by the department of all private lines is the only safe means to insure prompt collections. Without this your officers are to some extent dependent on the honor of the water taker to pay his rates, unless he (the officer) increases the cost to three times the value of the tax by digging and plugging the service line. We, as a city, are not alone in having this difficulty to provide for, until recent years wooden boxes were used in almost every city, but it was found expedient to prohibit the use of the plank box and compel the use of a proper iron shut off box with cover, etc., located in a convenient position for the department officers to reach. In 1883 our own department made this a condition of service line laying, the results from this restriction have been highly satisfactory, it only remains for the city to provide the same class of shut off box now used, to be put on lines laid previous to 1883 to obtain from them the same satisfactory results. Your Commissioner has under those difficulties succeeded in obtaining something near \$2,000.00 more revenue than ever before collected in the department, and considers it almost a matter of certainty that the revenue of the department for the coming year will reach the sum of \$10,500. The matter of organizing any department is difficult, but that of a water department is peculiarly so, as the commissioner is placed between the two fires, one the tax makers, the city council, and the other the tax payer having as the officer in charge necessarily must, discretionary power in many instances he has sometimes a difficult task to decide so that it will be satisfactory for both.

Under provisions of Ordinance No. 5, the Commissioner is responsible for the condition of all mains, hydrants, gates, etc. It is also contemplated that he report all matters pertaining to such, relative to the service obtained. The condition of the street mains has been during the late severe winter very satisfactory, no case of freezing having occurred and only one case of bursting has been reported during the whole year, viz.: on the corner of Vine and Rose streets. The hydrants during the past winter were kept from freezing.

but this required a good deal of care, I am happy to be able to state that at no time during the past winter would there have been one moment's delay in obtaining a fire service supply from any hydrant in the city. Captain Healy, Chief Engineer of the Fire Department, very kindly aided me in seeing that this important step was carried out, as well as the salting of all the water gates in the heavily populated districts. In substance I report all gates, hydrants and Mains in first class condition.

With reference to new main construction, the final determination of the Committee on Fire and Water to lay but two lines, viz.: that of south Edwards street and Porter street gave but little opportunity to reap any benefit from revenue, but it supplied a district which had been long promised the luxury of good water, and increased the fire protection on the whole line of east Main street. In view of the fact changes may be made on some of the water lines of the city the coming season, and that such changes would involve changes in the location of fire hydrants and gates, it was deemed inexpedient to make out a schedule of either hydrants or gates for this report, but Mr. Chandler very kindly made a table of the present water mains, showing their size, location and length. I summarize such table as follows:

Length of water pipe in the city, 18 miles, 2,793 feet.

Number of hydrants, 174.

Number of gates, 144.

The extension of water mains the past year was done under the supervision of Supt. Chandler, and, as he is known to be particular in everything he has charge of, this construction will be found first class in its character.

Mr. Chandler also supervised the general repairs made for the department, which I am glad to say have not been very extensive or expensive this year. There is, however, some difficulty arising from the fact, that in asking Mr. Chandler to take charge of the repairs it sometimes materially interferes with his duties as Chief Engineer of the Water Works, and I would suggest some responsible party be employed for such work, rather than tax Mr. Chandler with it. When the repairs are on service line the City Plumbers are expected to repair, but not any of the fire hydrants or gates.

Repairs on the old service lines, while not more than usual, have cost in some particular instances very heavy, owing to frozen ground and length of such service from the main. In some localities it is found that the first lines laid have become rotten, and when taken out would crumble by pressure of the hand. We may look in the near future for a largely increased cost in service line relaying across our streets.

The tapping of mains, done under permit by the licensed plumbers of the City, has been done with care and judgment, and I will say for the plumbers that in only a few instances has there been any attempt to evade or violate the provisions of the ordinance relative to their government, and even in these instances it was more from an ignorance of the requirements of the ordinance than a desire to wilfully violate the same.

The requirements of the ordinance, so far as relates to the citizens complying with the same, has been observed to a certain extent, but wastage still continues, and to that degree it became an actual danger the past summer, reducing us to a position where no percentage was left to increase pressure in

case of fire service being demanded. Some remedy must be found for this, or the consequences may be disastrous; I can see no possible methoth except to keep an inspector on the street during the heated term, when sprinklers are used, and I might say abused, at least, the manner of use is a little short of it. Penalties for this abuse should be severe, and I trust the Commissioner will not in the future be compelled to fight out this vexed problem alone.

The Committee on Fire and Water, during the past year, have considered some of the most important questions in regard to the water supply and distribution of the city, and I earnestly hope the large amount of investigation made and work accomplished by them will be production of the results desired by them in the particular branch of the department I have had in charge. Deeming it prudent our citizens should be well informed as to the quality of water they were using supplied by the City Works, I consulted the committe on the subject, and I was by them instructed to obtain an annalysis of the Water Works Well, together with other wells throughout the city.

I immediately sent samples of water for analysis to R. C. Kedzie, of Lansing, and subsequently to J. L. Fitzgerald, of Schenectady, New York, the result of which analysis, as reported by these gentlemen I herewith append; their report shows concusively the water at the works still maintaing the high standard for purity given in the first analysis, taken in 1871.

In the matter of both analysis it is necessary to make the following explanations so that our citizens may follow each analysis and comprehend fully the value of the same for such purpose I give the location of each sample of water tested:

KEDZIE ANALYSIS,

No. 1. Water from Water Works well.

No. 2. Water from Axtell Creek.

No. 3. Water from experimental well near Axtell Creek on Balch street, west line N. C. Balch land.

No. 4. Water from Noe well, situate at corner west North and Cooley streets.

FITZGERALD ANALYSIS.

No. 7, 8, 13. Water from Water Works well.

No. 10. Barrett well, north side of Main street and east side Church street, rear of store.

No. 12. Outlet of main sewer at the Kalamazoo river.

It is seen from these analysis that the water from the W. well from the Axtell Creek and from the new experimental well contain nearly the same amount of chlorine, while the Barrett well shows more than even the outlet of the city main sewer.

" LANSING, MICH., January 12th, 1885.

" FRED CELLEM, WATER COMMISSIONER, KALAMAZOO:

" *Dear Sir*—I herewith send you the result of analysis of the four specimens of water you sent from Kalamazoo for that purpose, the results are given in terms of grains in the imperial gallon (10 lbs).

" It will be observed that the waters have a similar composition, especially numbers one, two and three (Nos. 1, 2 and 3) the small amount of albuminoid ammonia and the absence of nitrites in all these waters, and the absence of nitrates from Nos. 2 and 3, while only a minute trace is found in No. 1, show that these waters may be regarded as free from any suspicion of unfitness for sanitary uses. No. 4 is the poorest, because it contains more lime and magnesia and the water is harder for laundry purposes, but it contains so little organic matter impurities that it could safely be used for culinary purposes.

" Trusting the analysis may be satisfactory,

" I Remain Yours Very Truly,

R. C. KEDZIE."

R. C. KEDZIE'S ANALYSIS OF KALAMAZOO WATER.

The quantities given represent the number of grains in 10 lbs of water, or parts in 70,000.	NO. 1. Water Works Well.	No. 2. Water Works Creek.	No. 3. New Well. (Experimental.)	No. 4. Noe Well.
Total solids left by evaporation.....	21.70	20.09	21.00	28.00
Volatile at red heat.....	1.75	1.68	2.80	2.80
Fixed Residue, or Mineral Matter.....	19.95	18.41	18.20	25.20
The Mineral Matter consists of				
Carbonate of Lime.....	10.08	8.47	8.75	14.04
Sulphate of Lime.....	traces	traces	traces	1.00
Carbonate of Magnesia.....	5.11	5.11	5.18	5.81
Alkaline Chlorides (mostly Chloride of Sodium).....	4.06	4.06	3.43	3.30
Soluble Silica.....	.70	.77	.84	1.05
Oxide of Iron.....	trace	trace	trace	trace
Total grains of Mineral Matter.....	19.95	18.41	18.20	25.20
Of the matter volatilized by red heat, the largest part was Organic Carbon (humus compounds,) but as to containing of Nitrates.....				
Nitrites.....	trace	none	none	trace
Nitrates.....	none	none	none	none

The quantity of Nitrogen in the form of Ammonia and Albuminoid Ammonia (the putrescible organic matter capable of forming Ammonia by decomposition) is so exceedingly small, that it is best stated in parts in 1,000,000 instead of grains in 70,000.

In 1,000,000 parts of the water there are of	Water Works Well.	Water Works Creek.	New Well. (Experimental.)	Noe Well.
Free Ammonia.....	0.15	0.10	0.05	0.05
Albuminoid Ammonia.....	0.10	0.07	0.10	0.12
Total Unoxidized Nitrogen Compounds.....	0.25	0.17	0.15	0.17

This statement exhibits water of great purity so far as organic matter is concerned.

TABLE GIVING THE RESULTS OF ANALYSIS OF WATER FROM WATER WORKS WELL, ALSO THE CHLORINE IN A CITY WELL AND IN THE SEWAGE.

Numbers represent parts per 100,000.

	Hardness	Chlorine.	Ammonia.	Albuminoid Ammonia.	Nitrates and Nitrites.	Date of Analysis.	
Water Works Well.....	12.00	0.816	0.001	0.001	0.037	Jan'y, 1880.	Geo. S. Pierson.
No. 7— " " " ".....	-	1.0	0.001	0.001	0.037	March, '85	J. L. Fitzgerald.
No. 8— " " " ".....		1.0					
No. 13— " " " ".....		1.1					
No. 10—Barrett's Well.....		3.1					
No. 12—Sewage at Outlet.....		2.4				" "	

The small quantity of chlorine present in the Water Works well is very good evidence that it is not contaminated. Ammonia, nitrites and nitrates are also in such small quantities that the water may be considered very pure and entirely wholesome; but it also shows that in the case of the Barrett well, such water is not fit for domestic use, and the danger to our citizens in using such as the last named water is serious and must at any cost be abandoned or disease will inevitably follow. It is to be hoped the results found by these analysis will be of practical benefit to all of our citizens.

It is evident from the analysis given that the water furnished our citizens is superior to almost any of the water furnished by the cities of the northwest. We have reason to congratulate ourselves that this fact appears after a lapse of so many years since the construction of the Water Works well.

In reference to the water distribution the past year, it has been increased to some extent, 98 tap permits having been issued and 108 extension permits having been granted for all classes of new fixtures, and the rates on lines and fixtures have been collected within a very few dollars, demonstrating that the permit system is the best reliance of the department.

I herewith append statement of the City Water Department expenses for the current year:

Current expenses of Water Works, including stock on hand.....	\$ 8,683 52
Permanent improvement at Water Works.....	7,482.49
“ “ in Main Department.....	1,098.06
Current expenses in Main Department.....	1,944.38
Total expenses.....	<u>\$19,208.45</u>

It will be seen that the current expenses only exceed the revenue in the sum of \$774 38, a much better showing than any made hitherto, closely approaching the cost, the next year's receipts should fully cover the cost. If this is done, the problem is solved, and we will have a water department self-sustaining in its character, which with care can be continued on this basis without creating any hardship to our citizens.

Mr. Chandler, as Superintendent, has prepared tables of expenditures in the department, both at the Water Works and in the Main division. He has also prepared a table showing the total expenses incurred since the establishment of the Water Works in 1869. This table was made in 1881 by the special committee of six on the History of the Village, and the data from that date was taken from the annual reports of expenditure. The total expenditure is shown as follows:

For Water Mains from 1869 to 1885.....	\$178,066.91
For Water Works “ “ “ “	144,780.28
Total.....	<u>\$322,847.19</u>

Mr. Chandler's tables showing the location, size and extent of the city water mains is one of value to the department and its continuance will be a matter of great convenience.

The Superintendent also has furnished the itemized expenditure on the new main construction for the past year, which I find agrees with figures on the department books. With this report I append tables showing the classification of the water collections made, taken from the Register of the department and verified throughout. With the assistance of Mr. Chandler, Capt. Healy and Mr. Strong I have been enabled to accomplish much in the organization of the department, and the condition of all its branches are reported as entirely satisfactory.

My relations with the Committee on Fire and Water have been of the most pleasant character, and I hereby tender thanks for all courtesies received from them. As an officer of the city I beg also to return thanks for

aid and courtesies received at the hands of the Mayor, the Council and Officers of the city. Respectfully submitted.

FRED. CELLEM,
Water Commissioner.

INVENTORY OF PROPERTY.

WATER COMMISSIONER'S OFFICE, April 13, 1885.

- 6 $\frac{3}{4}$ inch Crown Water Meters.
- 2 1 inch Crown Water Meters.
- 2 $1\frac{1}{2}$ inch Ball and Pitts Piston Meters.
- 1 Heavy Street Gate Key.
- 1 Light Service Gate Key.
- 2 Red Lanterns, 2 White Globes.
- 1 Hand Axe, 4 Meter Ring Testers.
- 1 Wrench.

REVENUE FROM WATER RATES.

TERM ENDING OCTOBER 31, 1884.			TERM ENDING APRIL 30, 1885.		
No.	USES.	AMOUNT.	No.	USES.	AMOUNT.
662	Domestic use (2,647 persons).....	\$1,609 81	644	Domestic use. (2,534 persons.).....	\$1,520 65
168	Sprinklers.....	679 75	16	Sprinklers.....	51 00
116	Private Stables.....	241 50	123	Private Stables.....	187 66
208	Water Closets.....	546 21	212	Water Closets.....	496 34
1	Public Flowing Water Closet.....	48 00	18	Urinals.....	52 83
25	Urinals.....	74 50	34	Wash Basins.....	76 12
36	Wash Basins.....	90 81	17	Bath Tubs.....	22 00
4	Fountains.....	28 50	74	Stores.....	271 57
18	Bath Tubs.....	30 15	27	Offices.....	73 10
57	Stores.....	200 95	13	Manufacturers. Engine use.....	110 99
33	Offices.....	100 67	24	Manufactories & Shops. (550 hands.)	123 49
18	Manufacturers. Engine use.....	269 00	15	Public Stables.....	141 43
31	Manufactories and Shops (711 hands)	178 66	24	Saloons.....	82 25
12	Public Stables.....	137 20	14	Billiard and Pool Tables.....	8 50
29	Saloons.....	110 00	5	Boarding Houses.....	17 75
3	Buggy washing.....	4 75	2	Hotels (special use).....	19 00
24	Cows.....	17 00	9	Restaurants.....	44 50
7	Motors.....	44 41	6	Laundries.....	27 99
7	Vegetable Sprinklers.....	21 00	5	Tenements.....	40 25
8	Restaurants.....	29 50	5	Bottling Works.....	36 90
14	Barber Chairs.....	19 75	17	Barber Chairs.....	22 00
3	Photograph Galleries.....	9 00	5	Photo. Galleries.....	21 00
8	Soda Fountains.....	19 00	2	Halls (special use).....	6 33
7	Boarding Houses.....	30 25	1	Library.....	2 25
14	Billiard and Pool Tables.....	7 00	7	Public Schools.....	41 00
4	Laundries.....	22 83	1	Bakery.....	15 00
2	Churches, (drinking only).....	11 00	2	Railroads. Engine use.....	304 00
2	Railroads. Engine use.....	304 15	2	Dye House.....	12 00
1	Railroad. Car use.....	5 40	22	Blacksmith fires.....	23 25
6	Tenements Domestic use.....	100 15	5	Rubbing Decks and Grindstone use..	14 00
1	Gas Works.....	120 00	5	Spring tubs.....	24 50
14	Blacksmith fires.....	17 50	1	Hydraulic Elevator.....	43 32
4	Spring tubs.....	21 00	1	Malt House.....	9 60
1	Brewery.....	12 00	12	Cows.....	13 00
3	Dye Houses.....	24 25	2	Motors.....	19 40
5	Bottling Works.....	38 50	1	Garden.....	4 00
1	Garden.....	5 00	1	Brewery.....	12 00
1	Bakery.....	5 00	1	Railway Car Stable (washing)	4 00
5	Hotels. Kitchen use.....	44 50	4	Street Sprinkling Carts.....	48 00
4	Street Sprinkling Carts.....	84 00		Horse Sheds (trough).....	22 00
	Hydrant use.....	17 85		Meter Bills.....	26 66
	Builders' rates.....	110 84		Builders' Rates.....	99 22
	Sundries.....	15 50		Sundries.....	9 50
	Delinquents.....	76 33		Delinquents.....	27 06
	Gross receipts for term.....	\$5,582 97		Gross receipts for term.....	\$4,227 41
	Credits and Rebates.....	53 81		Credits and Rebates.....	89 38
	Net receipts.....	\$5,529 16		Net receipts.....	\$4,138 03

The above schedule of Water Receipts includes amount collected by Commissioner McKee, from April 14 to April 30, 1885, in the sum of :172.12.

RECAPITULATION.

Revenue from Water Rates.....	\$9,667 19
“ “ Taps.....	199 00
“ “ Sundries.....	24 34

Department Gross Receipts..... \$10,033 72

Net Receipts.....\$9,890 53

Report of Chief Engineer and Superintendent of Water Works.

To the Honorable the Mayor and City Council:

GENTLEMEN—In compliance with the the provisions of City Ordinance No. 5, I present herewith the Fifteenth Annual Report of the City Water Works, for the year ending March 31st, 1885:

The engines and boilers at the works are in good condition, although they have been taxed to their fullest capacity to meet the requirements of the city for the past year.

During the past year no serious accident has occurred to any portion of the works, except the breaking of the steam pipe on the Worthington engine and the force main at one of the gates. This was caused by the settling of the building and foundation.

Accompanying this report, you will find tables and accounts of expenditures, together with a statement showing the stock on hand.

The total amount of water pumped during the year was 418,222,892 gallons, or a daily average of 1,145,816 gallons. The wood consumed has been $1,685\frac{1}{8}$ cords.

There were also 45 cords of old paving blocks and rubbish from street crossings, delivered at the works by Mr. Fuller, Chairman of the Committee on Streets and Bridges, and $5\frac{1}{2}$ cords from Mr. Winslow, Chairman of the Committee on Public Grounds and Buildings. This last amount is still on hand.

The new Pumping House is now ready for the foundation of the new pumping engine, and such foundations are in process of construction by the contractors.

The brick piers, floor and wainscoting still remain to be completed, for which no contract has yet been made.

The extensions made on water mains have been small, only 462 feet of 4 inch pipe and 446 feet of 6 inch pipe having been laid. One fire hydrant and four gates have also been put in position. Respectfully submitted.

GEO. H. CHANDLER,

Engineer and Superintendent.

TABLE "B."

ITEMIZED STATEMENT OF KALAMAZOO WATER WORKS ACCOUNT FOR THE YEAR ENDING MARCH 31, 1885.

MONTHS.	Salaries.	Extra Labor at Water Works.	Repairs on Engines.	Repairs on Pumps and Valves.	Repairs on Boilers and Furnaces.	Plumbing.	Repairs on Buildings.	Office Supplies.	Sundries.	Oils.	Waste and Rags.	Packing.	Steam Hose.	Lumber for Sidewalks and Repairs on Buildings.	Freight and Express on Sundries.	Freight on Wood.	Labor on Wood.	Amount Paid for Wood.	Gas.	Experiment- al Wells and Entrance to Well House.	Construction Account. New Pump House.	Wood and Sundries on hand Mar. 31, '84.	TOTAL.
1884.																							
April.....	\$ 250 00	\$ 12 00			\$ 50		\$ 35 40	\$22 46	\$ 2 15		\$ 2 73			\$12 93	\$ 35				\$4 86			\$1,601 21	\$1,601 21
May.....	250 00	8 10	\$128 89	\$35 86	1 58	\$ 4 08			11 29	\$ 45 93		\$ 5 59		2 11			\$ 18 38		5 40				343 38
June.....	250 00	13 50	21 05						1 65	30 60		2 80					19 25		4 86	\$120 26			617 26
July.....	250 00	2 25	27 24	5 55					9 73			1 50		14 17	6 20	\$ 8 00	18 72	\$ 9 00					463 97
August.....	250 00	57 75			51 00	6 23			4 97		10 75			20 64			134 15	14 02	68 91	4 50			357 76
September.....	250 00	42 00						75	11 90	7 16		3 50					138 95	52 50	474 81	5 40		\$ 610 26	1,233 18
October.....	250 00	42 00					108 87	1 59	27 83	6 57	4 98						70 00	76 50	733 17	6 84		2,471 91	3,458 88
November.....	250 00								5 00								42 70	68 72	598 76	7 02		1,705 26	3,633 61
December.....	250 00	42 55			10 20		72 11		50 60								59 50	101 00	853 43	8 64		1,115 00	2,170 11
1885.					16 32				4 54	8 34										75 42		334 94	1,805 28
January.....	250 00	16 90							7 34	17 01							25 20	13 50	290 93	9 00		174 02	803 90
February.....	260 00	60 70		30 57			1 05		1 10	80 77							26 62	16 88	6 30			16 88	483 99
March.....	260 00	31 20		5 20					53			4 20	\$20 79				9 00		5 40		38 88	819 06	1,194 26
Totals.....	\$3,020 00	\$328 95	\$177 18	\$77 18	\$113 88	\$10 31	\$233 75	\$24 80	\$88 03	\$196 43	\$18 46	\$17 59	\$20 79	\$49 85	\$6 55	\$478 50	\$418 21	\$3,029 01	\$73 62	\$234 56	\$7,247 93	\$1,601 21	\$17,466 79

Water Works Cr. by Oils and Sundries on hand March 31, 1885.....\$ 111 25

" " " 519¾ cords Wood " " @ \$2 47.....1,281 93

" " " Fire Department Sundries.....22 95

" " " Cash and Bills rendered to City Clerk.....43 97

\$ 1,460 10

Total net expenses.....

\$16,006 69

TABLE "C."
PUMPING RECORD FOR THE YEAR ENDING MARCH 31, 1883.

MONTHS.	HOURS RUN.		NO. OF REVOLUTIONS AND DISPLACEMENTS.		Gallons Pumped.	Daily Average.	Average Pressure.	Height in Feet.	No. of times Pressure up for Fires.	Time Fire Pressure was kept up.	Pressure up for High Service.	Time High Service Pressure was kept up.
	Holly.	Worthington.	Holly.	Worthington.								
1884												
April.....	720	.....	965,500	.....	27,034,000	901,133	40	90.23	1	n.	10	n.
May.....	340 $\frac{1}{2}$	403 $\frac{1}{2}$	449,200	199,315	27,725,540	894,372	45	102	.....	.....	7	3
June.....	656 $\frac{1}{4}$	63 $\frac{1}{4}$	962,500	35,958	29,656,488	988,549	45	102	.....	35	9	4
July .. 1.....	732	12	1,133,352	8,630	32,389,736	1,044,839	50	113.13	2	40	14	7
August.....	740	4	1,308,960	2,677	36,854,332	1,188,849	45	102.00	5	4	35	19
September.....	685	35	1,191,230	32,643	33,835,308	1,194,510	50	113.13	3	45	18	9
October.....	742	2	1,148,300	1,554	32,270,504	1,040,984	50	113.13	1	10	5	2
November.....	720	.....	1,088,300	.....	30,472,400	1,015,746	45	102	.....	.....	2	1
December.....	740	4	1,339,900	3,113	37,553,788	1,217,864	45	102	5	1	25	5
1885												
January.....	743	1	1,564,870	771	43,874,956	1,415,821	40	90.23	1	10	1	30
February.....	576	95	1,191,800	121,821	42,628,796	1,522,457	40	90.23	.....	.....	6	3
March.....	740	4	1,475,760	5,339	41,727,044	1,346,663	45	102	1	15	1	30
Total.....	8,135 $\frac{1}{4}$	624 $\frac{1}{4}$	13,818,732	411,821	418,222,892	1,145,816	.....	.....	23	9	45	45

Daily average of water pumped for the year ending March 31st, 1885, 1,145,816 gallons.

Wood consumed in 12 months, 1,685 $\frac{1}{2}$ cords.

Average cost of wood per cord \$2.47.

Wood consumed in 24 hours, 4 61-100 cords, and cost per day of 24 hours, \$11.65.

Cost of fuel used in raising 1,000,000 gallons 100 feet high, \$10.17.

Average daily cost of maintenance, \$23.35.

14 per cent. more waste water pumped during the fiscal year ending March 31st, 1885, than during the year ending March 31st, 1884.

TABLE "E."
**SHOWING LOCATION OF WATER MAINS, WITH SIZE IN INCHES AND
 LENGTH IN FEET, MARCH 31, 1885.**

STREETS.	DIAMETER OF PIPE.								TOTAL.
	2 inch.	3 inch.	4 inch.	6 inch.	8 inch.	10 inch.	12 inch.	16 inch.	
Academy	535			1,403					1,938
Axtel			1,243						1,243
Burdick			1,921	2,640	1,089	2,882			8,532
Burr Oak				18		1,163			1,181
Cedar			1,526	1,716					3,242
Cherry			789						789
Dutton	680		468	630					1,778
Davis			471						471
Douglas Avenue			669						669
Empire			627						627
Elmwood			121						121
Eleanor			662						662
Elm	472		660						1,132
Edward			1,280						1,280
First			689						689
Frank			1,681						1,681
Henrietta	417								417
Jackson			700						700
John			924						924
Kalamazoo Avenue			6,510						6,510
Locust			1,650						1,650
Lovell			4,803						4,803
Lake	85		852						937
Main		569	4,780	2,574					7,923
North			1,320	1,396					2,716
Park			2,310		1,542				3,852
Pitcher	166		535						701
Porter			396	1,683					2,079
Portage		400	4,101						4,501
Rose			3,080	798					3,878
Ransom			1,782	1,355					3,138
South	825		3,069						3,894
Stuart Avenue			1,122						1,122
Village				64					64
Vine			3,366						3,366
Walnut	690		2,172						2,832
Water	227		1,882	618					2,727
West			1,428	4,884					6,312
Willard			594						594
Woodard Avenue			2,024						2,024
Wheaton Avenue			726						726
Blount's Alley			272						272
Dudgeon Alley			198						198
Lateral Pipe			3,250						3,250
M. C. R. R. ground			362						362
Discharge at Water Wks							18	8	26
Suction at Water Works					30	36		117	183
Academy of Music			25						25
Totals	4,067	969	65,540	19,780	2,661	4,181	18	125	98,741

Total number of feet of water mains laid to March 31, 1885, 98,741, or 18 miles and 2,793 feet.

Total number of fire hydrants, to March 31, 1885, is 174.

Total number of gates, 144.

TABLE "F."

STATEMENT OF EXPENDITURES IN THE KALAMAZOO STREET MAIN DEPARTMENT AND FOR WATER WORKS WELL FROM THE YEAR 1869 TO 1885.

Year End- ing.	Water Com- missioner's Salaries and Office Work.	Water Pipe, Hydrants, Gates, Lead, etc.	Labor lay- ing Pipe.	Freight.	Repairs.	New Well.	Incidental	TOTAL.
1870	.....	\$22,667 78	\$ 4,585 00	\$ 1,365 50	.....	.....	\$ 1,197 50	\$ 29,815 78
1871	\$ 500 00	16,811 49	4,292 51	1,392 11	.....	.....	800 00	23,796 11
1872	1,000 00	4,091 97	1,903 77	866 77	100 00	9,234 00	1,000 00	18,196 51
1873	1,000 00	1,435 97	342 00	200 00	200 59	1,109 00	595 26	4,882 80
1874	1,000 00	9,196 66	4,979 55	900 86	842 00	.....	733 99	17,649 06
1875	1,000 00	1,503 13	303 81	660 01	1,220 00	.....	527 25	5,214 20
1876	1,000 00	1,597 00	784 58	200 86	279 26	.....	201 02	4,062 72
1877	833 36	1,357 42	220 00	50 00	100 35	.....	100 55	2,661 68
1878	500 00	2,356 12	643 88	415 13	185 00	.....	668 50	4,768 63
1879	400 00	2,022 15	768 92	86 42	97 00	.....	159 93	3,534 42
1880	400 00	6,247 74	974 52	57 87	136 89	.....	145 95	7,962 97
1881	500 00	1,861 73	397 08	184 90	213 52	.....	212 04	3,369 27
1882	500 00	2,925 54	655 77	21 97	231 63	.....	130 38	4,465 29
1883	500 00	191 03	23 66	3 86	243 47	.....	.....	962 02
1884	500 00	7,392 91	1,676 77	60 89	395 98	.....	369 83	10,396 38
1885	812 50	758 60	527 23	61 95	344 54	.....	537 62	3,042 44
Totals.....	\$10,445 86	\$82,313 24	\$23,079 05	\$6,529 10	\$4,690 21	\$10,343 00	\$ 7,379 82	\$144,780 28

TABLE "G."

STATEMENT OF EXPENDITURES OF THE KALAMAZOO WATER WORKS FROM THE YEAR 1869 TO 1885.

Year Ending.	Salaries and Labor.	Wood and Coal	New Machinery.	Construction and Repairs.	Freight.	Incidentals.	TOTAL.
1870	\$ 611 83	\$ 1,726 71	\$25,988 65	\$ 4,284 00	\$ 1,164 00	\$ 780 15	\$34,550 34
1871	1,396 00	2,555 40	3,133 79	78 35	1,392 12	763 31	9,318 97
1872	1,440 50	3,414 98	.....	1,374 33	866 76	1,500 00	8,596 57
1873	1,680 00	3,482 41	3,453 02	550 00	727 60	365 00	10,258 03
1874	1,864 07	2,610 19	574 19	548 59	486 00	503 27	6,586 31
1875	2,682 05	4,094 87	3,680 00	1,650 28	620 00	673 12	13,400 32
1876	2,937 92	2,707 11	499 00	1,077 41	390 30	493 50	8,105 24
1877	2,880 00	1,811 17	.....	293 91	300 00	637 95	5,923 03
1878	2,892 63	2,150 00	3,769 17	1,465 00	547 66	769 40	11,593 86
1879	2,880 00	1,658 87	2,141 17	60 49	83 29	587 36	7,411 18
1880	2,886 87	1,648 23	.....	474 93	66 51	379 64	5,556 18
1881	3,089 97	3,559 09	199 00	818 18	465 68	556 55	8,688 47
1882	3,000 90	2,990 08	255 10	4,542 37	75 66	420 37	11,284 48
1883	3,053 99	4,417 41	.....	4,616 92	1,197 52	444 57	13,730 41
1884	3,000 00	3,485 14	.....	226 82	2 03	483 95	7,197 94
1885	3,020 00	3,447 22	.....	7,482 49	485 05	1,430 82	15,865 58
Totals.....	\$39,416 73	\$45,958 88	\$43,688 09	\$29,544 07	\$ 8,870 18	\$10,788 96	\$178,066 91

Expended for Water Mains from 1869 to March 31, 1885..... \$144,780 28

Expended for Water Works " " " " 178,066 91

Total..... \$322,847 19

TABLE "H."

WATER PUMPED FOR THE FOLLOWING YEARS, ENDING MARCH 31, 1885.

YEARS.	GALLONS.
1879.....	224,476,561
1880.....	284,248,150
1881.....	293,269,940
1882.....	270,674,935
1883.....	303,672,096
1884.....	365,755,316
1885.....	418,222,892

PROPERTY AT WATER WORKS PIPE YARD, MARCH 31, 1885.

	POUNDS.
7 Lengths of 10 inch Water Pipe ea. 810 lbs.....	5,670
2 " 8 " " " " 675 ".....	1,350
7 " 6 " " " " 408 ".....	1,856
7 " 4 " " " " 267 ".....	1,869
3 4 inch Tees.....	315
1 4 " Cross.....	140
6 6 " ".....	1,500
1 6 " Tee.....	198
1 6 " Y.....	195
4 6 " Reducers.....	164
2 10 " Sleeves.....	200
12 6 " ".....	720
3 4 " ".....	123
6 4 " Plugs.....	90
4 6 " ".....	150
3 8 " ".....	105
	14,645
14 Pigs of Lead @ 90 lbs each.....	1,260
50 lbs Oakum.....	50

1 Fire Hydrant. 1 Fire Hydrant Top. 3 Fire Hydrant Stems. 3 Fire Hydrant Seats. 1 old 6-inch Gate.

Report of the Chief Engineer of the Fire Department.

To the Honorable the Mayor and City Council:

GENTLEMEN—I have the honor to submit herewith the Annual report of the City Fire Department for the fiscal year ending March 31st, 1885, in which is a list of the number of men on the force, with inventory of property and record of alarms, etc., together with recommendations and suggestions calculated to further the efficiency of this department.

While the country has suffered a greater amount of loss of property by fire in the past year than usual, owing to the long and severe winter, we can congratulate ourselves that our record shows an exceedingly small loss proportioned to the number of alarms in the city.

While a great many other cities have suffered from having frozen hydrants during the past winter, I am happy to state we did not have a single instance of the kind occur throughout the city. This I credit to Water Commissioner Cellem for his good care of the hydrants before cold weather set in.

The number of alarms, as the accompanying tables show, were 44, of which 26 were regular alarms, 18 were stills, 26 were for fire and 17 for chimneys and other causes.

The total amount of loss by fire.....	\$8,420 00
“ “ “ insurance paid.....	6,686 00
Net loss.....	<u>\$1,818 00</u>

The greatest part of this loss was caused by two fires that occurred in the same locality near Davis and Lovell streets, where there is a limited water supply, and no alarm box near at hand at that time, causing a delay in giving the alarm.

Here I would state that our water supply and the hydrant pressure is wholly inadequate to cope successfully with a fire of any great magnitude that may occur in any portion of our city and especially in the high building district.

I heartily indorse the plan mapped out for the enlargement of the water main system of the city and trust that the recommendations made on the subject both by the officers of the department and the Committee on Fire and Water will be fully concurred in by the incoming committee, and that a portion of such lines will be laid during the present year, particularly the Burdick street main.

I deem it my duty also to call your attention to a fast growing evil, viz.: a violation of the laws of safety in the business portion of the city. Instances have come to my knowledge in the past year in this direction which amount to almost criminal carelessness.

The only safeguard against this is a thorough inspection of buildings in the fire limits and to do this it will be necessary to appoint fire wardens with the power to enter buildings for this purpose.

Be the remodeling of the Vigilant Hose Co.'s house and placing at that station one four wheel hose carriage, with one horse and two full paid men, it has made that company first class in every respect, as their record will show.

By transferring one man from the Hook and Ladder truck to No. 3 Hose Co., it leaves the truck with but two men, and I would respectfully recommend that at least one man be added to the truck crew.

I would also ask that the teams be kept for fire purposes only, and not be allowed to work on the streets as it spoils them for fire duty and they are not always on hand when needed.

There are six horses in the department, five in use and one in the hospital.

There have been two new horses purchased at a cost of \$410 and now doing duty, one on No. 1 Hose Cart, and the other on the Hook and Ladder Truck.

One horse was seriously injured in a collision of hose carts, but has recovered and is now doing duty on No. 3 cart, while his mate is in the hospital sick.

This team is the first team that was purchased for the fire department and should be retired from service as soon as possible.

I would suggest that one more horse be purchased and this team be disposed of or be placed at the water works to do teaming that must be done there, where they would last some time at slow work.

The time is not far distant when there will have to be a hose cart or chemical engine placed at or near the Water Works to protect a fast growing district south and east from that point.

To my assistant, Mr. Wm. H. Athey, and foreman, Wm. Nason, of the Volunteer force, great credit is due for the interest they have taken in the department, and I here acknowledge the faithfulness and promptness with which every member of the Fire department has assisted me in the discharge of my duties in the past year.

To the Chairman and Committee on Fire and Water, in behalf of the members of the Fire Department, I tender you our sincere thanks for the kindness and liberality shown during your administration. Respectfully submitted.

B. J. HEALY,
Chief Fire Department.

OFFICERS AND MEMBERS OF KALAMAZOO CITY FIRE DEPARTMENT.

Chief of Department—Byron J. Healey.

Assistant Chief—William Athey.

ARCH 31, 1885.

	LOSS ON BUILDING.	LOSS ON GOODS.	TOTAL INSURANCE.	INSURANCE PAID.	NET LOSS.	REMARKS.
	\$ 25 00		\$ 700 00	\$ 25 00		No damage.
						No damage.
						No damage.
	10 00		3,500 00	10 00		
					\$ 10 00	No damage.
						No damage.
						No damage.
					25 00	Out of reach of Water Works. Box 35 and 14 pulled.
						No damage.
	3,700 00		3,000 00	3,000 00	700 00	Hose Cart No. 1 collided with No. 3. 1 Horse injured.
	1,200 00	\$400 00	800 00	800 00	800 00	
	2,000 00	400 00	2,200 00	2,200 00	200 00	
						No damage.
						No damage.
						No damage.
						No damage.
					50 00	
						Put out with extinguisher.
						Still given to No. 3.
						No damage. Answered by No. 1.
	400 00		400 00	400 00		No. 1 laid hose, and used one stream.
						No damage.
						No damage.
						Put out by No. 3 with extinguisher.
						No damage.
						No damage.
						No damage.
	45 00		650 00	45 00		
	200 00		1,200 00	166 25	33 75	
						No damage. Answered by No. 1.
						No damage.
						Alarm answered by No. 3.
						No damage. Answered by No. 1.
						Cart did not go out. Carried extinguisher down.
						Answered by No. 3. Used extinguisher.
						Answered by No. 3. No damage.
						Answered by No. 1. No damage.
						Answered by No. 1. No damage.
						Answered by No. 1. Used one extinguisher.
room.	40 00		20,000 00	40 00		No. 1 laid hose and put out fire.
						No. 1 broke bob sleigh.
						Answered by No. 3. No damage.

RECORD OF FIRES AND FIRE ALARMS FROM MARCH 1, 1884, TO MARCH 31, 1885.

DATE.	TIME.	BOX.	LOCATION.	DESCRIPTION.	OWNER.	OCCUPANT.	OCCUPIED AS	CAUSE.	LOSS ON BUILDING.	LOSS ON GOODS.	TOTAL INSURANCE.	INSURANCE PAID.	NET LOSS.	REMARKS.
1884														
Mar. 6.	10:20 a. m.	T.	215 West Ransom Street.	1½-story frame.	John Fidler.	Same.	Residence.	Defective flue.	\$ 25 00		\$ 700 00	\$ 25 00		No damage.
Mar. 27.	6:10 p. m.	T.	220 North Rose Street.	1-story brick.	Rhodes & Dean.	Geo. Clark.	Foundry.	Caught from cupola.						No damage.
April 19.	6:00 a. m.	G.	109 North Church.	2-story frame.	Peleg Stevens estate.		Residence.	Chimney.						No damage.
April 29.	2:40 p. m.	Still.	Parsons Street, near R. R.	Wood pile.				Caught from sparks from locomotive.						No damage.
May 11.	3:45 a. m.	Still.	Corner Burdick and Water Streets.	1-story brick.	N. Baumann.		Store and offices.	Incendiary.	10 00		3,500 00	10 00		No damage.
June 13.	7:20 a. m.	J.	10 rear of 320 Burdick Street.	1-story frame.	Bush & Peterson.	Smith & Woodard.	Engine and boiler house.	Caught from boiler.						No damage.
June 17.	9:15 p. m.	T.	Corner of Main and Portage Streets.	3-story brick.	Chas. Bates estate.		Store and Residence.	Gas explosion.						No damage.
July 4.	6:00 p. m.	Still.	Corner Main and Burdick Streets.	Awning.	Nathanson & Bernman.			Fire works.						No damage.
July 13.	3:00 p. m.	G.	123 West Main Street.	3-story brick.	Frank Clark.	Coleman & Son.	Drug store.	Combustion of chemicals.						No damage.
July 19.	11:00 p. m.	G.	Grand Rapids Road.	1-story frame.	Palmcr.		Barn.	Unknown.					25 00	Out of reach of Water Works. Box 35 and 14 pulled.
Aug. 5.	12:20 a. m.	G.	123 West Main Street.	3-story brick.	Frank Clark.	Coleman & Son.	Drug store.	Carelessness.						No damage.
Aug. 16.	1:40 a. m.	32.	Corner Cedar and Davis Streets.	2-story frame.	C. L. Fairfax.		Unfinished.	Built for boarding house.						No damage.
Aug. 18.	2:45 p. m.	34.	Corner Lovell Street and Asylum Ave.	Frame barn & 1-story ho.	Lewis Sargent.		Residence.	Children smoking in barn.	1,200 00	\$400 00	3,000 00	3,000 00	700 00	Hose Cart No. 1 collided with No. 3. 1 Horse injured.
Aug. 18.	2:45 p. m.	34.	935 West Lovell Street.	Frame barn & 2-story ho.	Wilbur Root.		Residence.	Exposure.	2,000 00	400 00	2,200 00	2,200 00	200 00	No damage.
Aug. 18.	5:00 p. m.	G.	Kal. Ave. between Burdick and Edwards.	3-story brick.	Dewing & Son.		Planing Mill.	Sparks.						No damage.
Aug. 24.	7:00 p. m.	21.	Lake Street.	Brush pile.										No damage.
Sept. 14.	6:45 p. m.	14.	530 Kalamazoo Avenue.	1½-story frame.	Mrs. Walker.		Residence.	Chimney.						No damage.
Sept. 15.	11:30 a. m.	4.	5 311 North Burdick Street.	1-story brick.	Pat. Rooney.	Hasseneyer Bros.	Dye shop.	Sparks.						No damage.
Sept. 18.	11:00 p. m.	5.	Rear of 311 North Burdick Street.	Brick oven.	Pat. Rooney.	N. Luffen.	Bakery.	Over heated.					50 00	Put out with extinguisher.
Oct. 15.	8:45 p. m.	4.	Eleonor Street, near Rose.	2-story frame.	Cornell & Co.		Carriage shop.	Incendiary.						Still given to No. 3.
Oct. 17.	11:30 a. m.	Still.	M. C. R. R.	Car of charcoal.	M. C. R. R. Co.		To carry merchandise.	Sparks.						No damage.
Oct. 17.	4:00 a. m.	Still.	121 East Main Street.	1-story brick.	Russell estate.	H. Stern & Co.	Clothing store.	Chimney.						No damage. Answered by No. 1.
Nov. 4.	8:00 a. m.	14.	Winslow Avenue.	2-story frame.	A. J. Winslow.	Mr. White.	Residence.	Defective chimney.	400 00		400 00	400 00		No. 1 laid hose, and used one stream.
Nov. 9.	5:00 p. m.	21.	Third Street.	Burning grass.				Sparks.						No damage.
Dec. 4.	1:00 p. m.	41.	Corner West and Vine Street.	2-story frame.	Peyton Banney.		Residence.	Chimney.						No damage.
Dec. 5.	3:40 p. m.	Still.	M. C. R. R. Baggage 10 m.	1-story frame.	M. C. R. R. Co.		Baggage room.	Caught from stove.						Put out by No. 3 with extinguisher.
Dec. 16.	4:00 p. m.	Still.	119 North Burdick Street.	1-story brick.	N. Baumann.		Boarding house.	Chimney.						No damage.
Dec. 18.	8:10 a. m.	35.	734 West Kalamazoo Avenue.	2-story frame.	Francis S. Stone.		Residence.	Chimney.						No damage.
Dec. 22.	11:15 a. m.	7.	710 South Rose Street.	2-story frame.	Otto Ihling.		Residence.	Chimney.						No damage.
Dec. 29.	11:55 p. m.	8.	105 East Vine Street.	1-story frame.	Mrs. Schaberg.		Shoe shop.	Unknown.	45 00		650 00	45 00		No damage.
Dec. 30.	1:30 a. m.	6.	113 North Church Street.	2-story frame.	Peleg Stevens estate.	Garrett Weirs.	Boarding house.	Ash barrel.	200 00		1,200 00	166 25	33 75	
1885														
Jan. 9.	8:20 p. m.	Still.	316 Elm Street.	2-story frame.	John Ward.		Residence.	Chimney.						No damage. Answered by No. 1.
Jan. 18.	10:30 a. m.	6.	Corner St. John's Place and Lovell Street.	1½-story frame.	W. A. Tomlinson.		Residence.	Chimney.						No damage.
Jan. 18.	7:30 p. m.	Still.	West Kalamazoo Avenue.	2-story frame.			Residence.	Chimney.						Alarm answered by No. 3.
Jan. 20.	6:30 p. m.	Still.	217 West Lovell Street.	1½-story frame.	Dr. W. B. Southard.		Residence.	Chimney.						No damage.
Jan. 24.	7:50 p. m.	Still.	119 North Burdick Street.	1-story brick.	N. Baumann.		Restaurant.	Caught from lamp.						Cart did not go out. Carried extinguisher down.
Jan. 25.	3:30 p. m.	Still.	830 North Rose Street.	1½-story frame.	Columbus Reisterer.		Residence.	Chimney.						Answered by No. 3. Used extinguisher.
Feb. 10.	6:45 a. m.	Still.	319 North Park Street.	2-story frame.	Mrs. Wm. Kenward.		Residence.	Chimney.						Answered by No. 3. No damage.
Feb. 10.	4:40 p. m.	Still.	Corner Park and Walnut Street.	2-story frame.	O. T. Tutthill.		Residence.	Chimney.						Answered by No. 1. No damage.
Feb. 11.	5:00 p. m.	Still.	Between Rose and Church on Main Street.	3-story brick.	Peleg Stevens estate.		Stores.	Chimney.						Answered by No. 1. No damage.
Feb. 12.	11:15 a. m.	Still.	Corner Church and Academy Streets.	2-story frame.	County.	County Offices.	Court house.	Ashes.						Answered by No. 1. No damage.
Feb. 16.	6:15 a. m.	Still.	Main Street.	1-story brick.	H. F. Badger.		Hotel.	Sparks in laundry. Over heated dry room.	40 00		20,000 00	40 00		No. 1 laid hose and put out fire.
Mar. 3.	6:10 p. m.	21.	East Lake Street.	2-story frame.	Geo. Newmair.		Brewery.	Chimney.						No. 1 broke bolt sleigh.
Mar. 24.	12:30 p. m.	Still.	East Kalamazoo Avenue.	2-story frame.	Mrs. Lewey.		Dwelling.	Chimney.						Answered by No. 3. No damage.

Total number of alarms.....	44.
Total amount of loss by fire.....	\$ 8,420 00
Total amount of insurance.....	32,450 00
Total amount of insurance paid.....	6,686 25
Net loss.....	1,818 75
Loss outside water limits.....	25 00
Net loss inside water limits.....	1,793 75

HOSE CO. NO. 1.

Driver and Foreman—Edward Cope, Michael Rectenwall, Fred. Wildsmith, Walter Parrish.	}	Full Paid.
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HOOK AND LADDER CO. NO. 1.

Driver—Edwin Smith, Tillerman—Charles Russell,	}	Full Paid.
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HOSE CO. NO 3.

Foreman—William Nason.

Asst. Foreman—John Frank.

2nd Asst. Foreman—Archie Warren. Driver—Willis Mosher.	}	Full Paid.
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John Rupert,	Frank LaBar,	P. McHugh,
J. Rectenwald,	C. Hastings,	Chas. Jones,
Henry Nash,	James Utter,	Thos. Butler,
T. McHugh,	Elmer Martin,	Wm. Struthers,
John Morrissey.		

PROPERTY AT CORPORATION HALL.

Horses 5; hose carriage, four wheel, horse, 1; hose cart, two wheel, horse, 1; hose cart, two wheel, hand, 2; hook and ladder trucks, horse, 2; hand engine, 1; harness, double, 2; harness, double, patent swing, 1; Babcock extinguishers, hand, 3; fire hats, 6; rubber coats, 6; nozzles, plain, 3; shut off, 2; lanterns 8; side lamps, 4; axes, 7; iron bars, 4; door opener, 1; hydrant wrenches, 7; monkey wrenches, 3; cap wrenches, 2; spanners, 8; hose straps, 4; ladder straps, 6; shovels, 4; ladders, 495 feet; pole braces, 2; pike poles and hooks, 12; large hook and chain, 2; rope, large, 240 ft.; rope, small, 130 ft.; pompiers ladders, 3; belts, 3; leather buckets, 6; tin pails, 2; wooden pails, 2; wheelbarrows, 2; rakes, 2; tables and stand, 2; beds and bedding, 7; carpet, 60 yards; chairs, 7; bath tub, 1; pitchforks, 3; hose, cotton, rubber lined, 2,100 feet; hose, rubber, old, 1,000 feet; alarm box, 1; bell and striker, 1.

PROPERTY AT NO. 3 HOSE HOUSE.

Hose cart, horse, four wheel, 1; horse, 1; cotton hose, 800 feet; beds and bedding, 2; alarm box, 1; bell and striker, 1; hose pipes, 3; hydrant wrenches, 3; spanners, 4; horse blankets, 1; harness, single, 1; Babcock extinguisher, hand, 1; stove, 1; stand, 1; pitchfork, 1; shovel, 1; pail, 1; rubber coats, 5; hats, 4; lanterns, 3; chairs, 18; ax, 1; single swing harness, 1; box extinguisher charges, 1; wagon jack, 1; saddle, 1; book case, 1; desk, 1.

B. J. HEALY, Chief.

FRANK LABAR, Sec.

Report of the Superintendent of Fire Alarm Telegraph Lines.

To the Honorable, the Mayor and City Council :

GENTLEMEN—In the placing of new alarm boxes on line, the line has been changed in several places in order to shorten and avoid loops, and thereby insuring a more perfect working of the system.

Five small alarm boxes have been exchanged for large ones, and one new alarm box purchased and placed on line at the corner of Oak and Cedar streets.

The small gong which was used by the Chief Engineer, has been placed at No. 3 hose house for that company's use.

One small gong has been purchased for the Assistant Chief and placed at his residence.

The gong and striker at No. 1 hose house is old and worn and not reliable and should be replaced with a new one.

Also alarm station No. 8 at Water Works, where the alarm is given on a key, by hand, should be replaced with the regular alarm box.

Applications for alarm boxes have been made from time to time and in most cases have been complied with, and in this way we are building up an alarm system as good and complete as any in the land.

I would suggest that some means be furnished by which could be given an outside alarm of the number of the box or ward in which a fire might occur. This can be done by a large bell striker, or can be blown on the Water Works whistle after the regular alarm. This would be a great help to the firemen and gratification to property owners.

The expenses of the Fire Alarm Department have been as follows:

Mew boxes.....	\$379 77
New wire.....	19 93
Battery supplies.....	37 16
Small gong.....	21 10
Total.....	<u>\$457 96</u>

FIRE ALARM PROPERTY.

Alarm boxes, 15; engine house gongs, 3; engineer's gong, 1; call bell, 1; battery cells, 36; miles wire, 7; poles, 110; insulators, 300; hydrometer, 1; galvanometer, 1; one full set of line repairing tools.

LOCATION OF ALARM BOXES.

Box No. 4.	Corner Burdick and Eleanor.	Box No. 21.	Vine and Portage.
" "	5. No. 3 Hose House.	" "	26. G. R. & I. R. R. depot.
" "	6. No. 1 Hose House	" "	32. South and West.
" "	7. Burdick and Walnut-	" "	34. Main and Mich. ave.
" "	8. Water Works.	" "	35. Kal. & Woodward ave.
" "	12. Burdick and Frank.	" "	41. Walnut and West.
" "	13. North and Pitcher.	" "	42. West Wheaton ave.
" "	14. Kal. ave. and West.	" "	43. Cedar and Oak.

Immediately upon the discovery of a fire in your neighborhood go to the box nearest to the fire, unlock the door and pull the hook all the way down one time and no more. Let the hook go and shut the door.

Do not attempt to take the key out of the lock as this can only be done with a release key in the hands of department officials.

Keys to alarm boxes can be found in houses nearest to the box.

There are a few keys left on hand which will be given to responsible persons on application to Chief of Fire Department. Respectfully submitted.

BYRON J. HEALY,

Chief of Fire Department
and Supt. Fire Alarm Tel.

Report of the Committee on Streets and Bridges.

To the Honorable, the Mayor and City Council:

GENTLEMEN—Your Committee on Streets and Bridges beg herewith to submit their annual report of the City Street and Bridge department:

In giving the history of work done the past year it must be borne in mind we have labored under some difficulties consequent upon upon the change in the form of government. The various localities formerly treated under our general management have been cared for so far as practicable by ward supervision, whether this system will prove more successful than the old one, has not yet been demonstrated to the satisfaction of the committee.

We found, on taking charge, a large amount of material on hand, consisting of stone for paving purposes principally. The tools and implements on hand were for the most part worn out, one road scraper being the only implement of value found.

Our first effort on the street work was to put in condition some few places found dangerous, after which the regular repair work of the department was proceeded with.

In the matter of street paving it was concluded to let all such work by contract if possible.

Your committee advertised for proposals and after some delay a contract for wooden block and stone gutter paving was let to Alexander Cameron, a schedule of such work is herewith attached, having been verified from the expenditure tables of the city clerk.

Stone paving.....	\$ 853 22
Wood paving.....	444 58
Cost of paving blocks.....	2,407 43
The paving stone found on hand were paid for by a former administration, but it is fair to add the value of the same to the improvement, though it is not an item of cost for this year.	
Paving stone.....	1,348 00
Total value of improvements.....	<u>\$5,053 23</u>

We herewith append a statement of all classes of crossings built and repaired during the year, showing the cost of each:

The bridges of the city have needed very extensive repairs. Gull Road, both Main street, the Portage street, the Vine street and West street bridges having been new planked throughout and put in first class condition, and all the small bridges have been thoroughly repaired.

Extensive repairs have been made on the following named streets: Portage, Lake, south West, west and east Lovell, north and south Burdick, west Main, Kalamazoo avenue, Michigan avenue, Elm street, south Park, Wheaton avenue, Douglas avenue, and others.

Besides this the general repairs have been taken care of in a satisfactory manner, but it must be remembered the past severe winter, with snow accumulations which had to be removed, added greatly to the cost so far as relates to cleaning alleys, etc. Some few citizens, however, were liberal enough to pay a part of such cost. We are glad that it is now made the duty of all citizens to remove snow or ice from alleys in the city opposite their premises.

The street cleaning has cost about the same sum as in former years, and we would here recommend that the matter of scraping up the dirt in heaps by citizens to facilitate its removal be strictly attended to by the officer in charge of street work.

The cobble stone paving during the year, under contract and by the regular labor force, has been 6,522 square yards, and that of wooden block paving 6,309 square yards. We report the condition of the pavements on east Main and north Rose streets in good condition; that of Main street from the Kalamazoo House to Rose and on Burdick street from, and South to the M. C. R. R. depot will need to be thoroughly repaired during the present year.

The Street Railway company has cost the city quite an item of extra expense in consequence of the necessity found for grading the streets where their lines were laid, the amount of such aggregating \$2,400. It is a matter of great importance that the future privileges granted the Street Railway company be so guarded as to save all expense possible to the city in this direction.

During the past year the committee have had a good deal of trouble with the vexed question of sidewalk repairs, various plans were tried to compel these repairs, but with only partial success. Toward the close of the year, however, the matter was regulated so that but a small number of walks were left in poor condition. If it be possible, an ordinance should be drawn covering this whole matter, compelling the repairs. Our experience in the Peterman case clearly defines our liability if persons are injured in consequence of defective sidewalks.

We would call attention to the fact that the city at the present time is destitute of gravel for street construction or repair purposes, and some means must at once be devised to supply this imperative want. Various pits have been inspected but those seen have either failed in quality or quantity, the committee so far have consequently been unable to recommend a purchase.

Street grades have been given your committee by City Engineer Pierson, and this fact of obtaining proper grades before the work is commenced on any street is a great assistance to the committee and should be invariably done.

For full statement of grades we refer you to the table prepared by the City Engineer.

But little has been done during the year in relation to the opening of streets.

A compromise was effected in the Douglas avenue matter, and the street is now open and in fair condition for public travel.

The total expenses of the Street and Bridge Department, for the current year has been...		\$18,950 38
From which deduct receipts as follows:		
Scale receipts.....	\$343 21	
Sale of stone and plank.....	62 80	
Sidewalks and crossings.....	74 80	
Kalamazoo Street Railway Co.—Work on Portage Street.....	198 00	
Sundries.....	61 00	739 81
Net expenditures of Department.....		<u>\$18,210 57</u>

Leaving balance to the credit of the Street and Bridge Fund of \$1,789.43.

Your committee have endeavored to discharge their duties so that the greatest amount of good from the labor done would result to our citizens, and while we know it is impossible to please all, we have aimed to do do justice so far as found possible. It is, however, a hard task for any committee to supervise the street work of a city as large as ours, with some 90 miles of streets and about 49 bridges, besides the continual call for crossing repairs. With our experience in such matters, we feel justified in recommending that a competent Street Superintendent be employed to relieve, to a great extent the labor now thrown upon the committee.

We would call attention to the fact that the race bridge on east Main street, while safe at present, will soon need to be replaced with a new one, and we would recommend the construction of an iron bridge in this instance, as well as both river bridges when new ones are needed in both places. This, though costing much more, will be true economy and secure the city from the possibility of accidents occurring and possibly large damages to be paid.

Paving of the streets should be well considered, and all improvements in the central portion of the city at least be made of the most permanent character. Stone pavement in our judgment is not only the most economical, but is conducive to the public health and general cleanliness of the city.

If improvements to any great extent are contemplated this year, we would respectfully call attention to the repairs needed on Burdick and Main streets as being the most essential, in our judgment, for the comfort and convenience of our citizens.

Statement of gravel used on the streets of the city, showing amount in cubic yards and location of the improvements:

STREET.	CU. YARDS.
South West.....	3,061
North West.....	150
North Park.....	388
South Park.....	555
Wheaton Avenue.....	222
Water, Edwards and North.....	2,000
Howard.....	2,000
Elm.....	2,444
Parsons.....	100
North Burdick.....	100
South Burdick.....	3,000
Portage.....	15,555
Water.....	600
Douglas Avenue.....	300
West Main.....	200
Mill.....	1,555

STREET.	CU. YARDS.
East Vine.....	361
For Cobble stone pavement on East Main and North Rose.....	735
“ Wood block pavement on East Main.....	250
“ Street crossing.....	1,400
“ General Repairs.....	4,500
Total in cubic yards.....	39,476

This is the largest amount of gravel that has been handled in any one year, and the cost of hauling has been moderate considering the distance drawn, aggregating a sum of about \$11,000.

SCHEDULE OF CROSSINGS AND CULVERTS, WITH COSTS.

2	Stone	Crossings on	West and Academy.....	47	94
2	“	“	“ Lovell.....	47	94
1	“	“	“ Walnut.....	47	94
1	“	“	“ Dutton.....	23	97
1	“	“	Cedar and West.....	34	89
1	“	“	Main, in front of J. K. Wagner.....	37	80
1	“	“	Park and South.....	24	76
1	“	“	Portage and First.....	27	50
1	“	“	“ Lake.....	29	60
1	“	“	“ Second.....	28	84
2	“	“	West and Edwards.....	48	80
2	“	“	Ransom and Edwards.....	51	78
1	“	“	“ Pitcher.....	25	89
1	“	“	Portage and Lovell.....	20	00
1	“	“	(cobble) Portage and Vine.....	8	90
1	“	“	“ “ Lovell.....	8	75
1	“	“	“ “ Spring.....	8	00
1	“	“	“ Bartholamew.....	12	00
1	“	“	“ West and Wheaton Avenue.....	13	20
1	“	“	“ Axtell and West.....	12	00
1	“	“	“ “ Empire.....	12	00
1	“	“	“ Porter and Kalamazoo Avenue.....	12	75
1	Wood	“	Rose and Dutton.....	10	25
1	“	“	Douglas and Kalamazoo Avenue.....	10	00
1	“	“	West and Ada.....	8	00
1	“	“	Douglas Avenue and Kalamazoo Avenue.....	12	25
1	“	“	Portage and Spring.....	11	62
1	“	“	Burdick and Dutton.....	11	00
1	Stone	“	(repair) West and Cedar.....	15	00
1	“	“	“ “ Walnut.....	15	00
2	“	“	“ Portage and South.....	17	84
1	Wood	“	Harrison and East Avenue.....	9	25
1	“	“	Main and West.....	12	50
1	Stone and Wood	Crossing on	Portage and Third.....	33	20
1	“	“	“ Vine.....	36	25
1	“	“	“ Main, in front of T. A. Palmer's.....	24	50
1	“	“	“ Kalamazoo Avenue and Harrison Street.....	25	60
1	“	“	“ Main and Edwards.....	19	40
2	“	“	“ Elm and Kalamazoo Avenue.....	34	00
2	Culverts on	West and South.....		49	26
1	“	Walter and Vine.....		11	00
1	“	Portage (by Delos Phillips).....		5	00
1	“	Gull and Seminary.....		24	62
1	“	and Crossing on West and Park.....		26	14
1	“	“ Vine.....		24	63
1	“	“ Oak and Lovell.....		24	73
1	“	“ Park and Dutton.....		21	76
1	“	“ South.....		22	63
Total amount expended for Crossings.....				\$1,110	68

By analyzing the items of expenditure apertaining to the department, found in the classification made by City Clerk Strong, it will be seen the current expenses have not exceeded former years. The amount of permanent improvements made has been large and of such a nature as to involve heavy cost, the paving of Rose and Main streets for instance, the Portage street filling, together with south Burdick, south West, Elm and Howard street improvements, make up a large percentage of the total outlay, but all the work has been done substantially and we felt fully justified in using the citizens' money for such class of work.

We trust that all work done in the future will be done with a view to farther some definite plan or system of city street improvement such as will not lead back to the old plan of only patching up.

The gutter grades, though established on many streets, have been in a manner a dead letter, as filling for the past few years has been the rule instead of reducing the height of the streets at the gutter lines. More cutting out of gutters and less filling will ultimate in good to nearly all of the streets, by taking off the surface water in the shortest possible time.

Your committee tender thanks for the aid rendered them by the City council and all the officers and for many courtesies received. Respectfully submitted.

GEORGE FULLER,

A. L. LAKEY,

CHAS. H. BIRD,

GEO. C. WINSLOW,

FRED. HOTOP,

Committee on Streets and Bridges.

INVENTORY OF PROPERTY BELONGING TO THE CITY IN STREET AND BRIDGE
DEPARTMENT.

1 Road Scraper, 2 horse, wheeled.
1 Sand Board Scraper.
1 Small Pit Scraper.
1 Wooden Beam Plow.
6 Picks. 2 Scoops. 2 Shovels.
2 Grub Hoes. 2 Crossing Hoes.
1 Hand Axe. 1 Wrench. 1 Hammer.
7 Snow Plows.

Report of the Committee on Public Grounds and Buildings.

To the Honorable, the Mayor and City Council:

GENTLEMEN—Your committee on Public Grounds and Buildings beg leave to submit the following report and recommendations:

Although reference will undoubtedly be made in the reports of other committees to the buildings occupied by their departments—still for the purpose of grouping all the property owned or rented by the city into one report, we will endeavor to notice every one.

Bronson Park has been maintained at a cost of \$372 88 of which \$175 00 was paid for the ordinary care of the grounds, and the balance for repairing and painting the water and gas fixtures, for replacing decayed and worn out planks in the sidewalk, for renewing, painting and securing the lawn seats in their places, for a watchman and for fences to prevent people from destroying the grass and other public property.

The amount appropriated for Park.....	\$475 00
The amount expended for Park.....	372 88
Balance to credit of Park.....	<u>\$102 12</u>

We would recommend the entire surface of the lawn be rolled and seeded and the gravel walks be regraded and trimmed; also a stone or cement sidewalk along the Academy street side and a drain to the Arcadia creek which will carry off the water that accumulates in and around the park.

The Riverside cemetery had a fund of \$353 88 to its credit when it was placed in our charge. The amount received from the sale of lots during the year is \$478 50. Total expense during year is \$456 53. Amount now on hand \$375 85.

Your committee have not introduced any system of permanent improvement as the amount on hand was inadequate and our time too short to thoroughly post ourselves on the subject.

We would recommend that when a plan of improvement is decided upon the entire charge of it be given to some competent person until completed, and not subject the cemetery to the changes of policy incidental to changes in city committees every year. Mr. Dennis Coogan has attended to his duties in a very satisfactory manner both to your committee and to the public.

The Old West street cemetery has been graded ready for seeding. The superfluous trees have been removed and those remaining trimmed up. The

unsightly old gravestones have been sunk in the ground, the place of each marked and recorded in the Cemetery record.

The West street sidewalk being decayed was taken up and the soil used for grading and the space filled with gravel ready for a permanent walk. The entire amount expended was \$289 98.

We would recommend the grounds be seeded down, a row of shade trees be set out on the south and west sides and a stone or cement walk be laid on West street.

A pumping station for the new engines and pumps has been erected during the past season on the Water Works lot, just south of the well. This building will compare favorably with any in the state in plan and design, and is constructed of the best materials and in the most workmanlike manner. When the pumps are in position our people can "point with pride" to our water works establishment.

The rooms in the city hall heretofore occupied by the Public Library and Board of Education were vacated during the month of January last. Your committee intended to erect an addition to the south third of the building for the use of the Fire Department, which would facilitate their work and make room for the Chief of Police where the hook and ladder truck is now located. Also, that the City Treasurer and Supervisors should have the room now used by the Police Department. But owing to the severity of the winter, it was thought best to defer the work till warmer weather, excepting the rooms for the Recorder's Court and the City Engineer, which have been renovated and furnished for their use.

Also in view of the fact that many of our citizens consider it dangerous for the Fire Department to remain on Burdick street, we were not inclined to add to the buildings so soon before the matter would be considered by the new council. The amount expended for repairs and permanent improvements in the city hall during the year is \$829.86.

The Vigilant Hose House was remodeled by the owner, Mr. Dudgeon, and now costs the city \$300 per annum for rent, but as it is conveniently located for fire purposes and for holding elections and political meetings, the rent is as low as can be expected, but as soon as it can be afforded we would recommend that the city secure good locations in each ward and erect a low priced building, suitable for a hose house and the holding of elections or other ward gatherings.

The hay and wood market, as it is generally known, is leased to the city for a term of years which expires June 1, 1887, at an annual rental of \$400. The grounds are already too small for the business done, and before new arrangements are made the future requirements of the city should be well taken into consideration.

A pound has been maintained in the north and south part of the city on private property. Such inclosures should be owned by the city and permanently kept up.

The vacant lots owned by the city near the corner of east Walnut and Jasper streets should be inclosed and a cheap storehouse erected in which the road scraper and other street tools can be stored during the winter season and when not in use.

The gravel banks heretofore used by the city are about exhausted and we would recommend that others be procured as near the center of the city as possible, of proper material.

SUMMARY OF MONEY EXPENDED.

Amount appropriated.....		\$1,500 00
Expended on Bronson Park.....	\$372 88	
“ Old West Street Cemetery.....	289 98	
“ City Hall.....	829 86	
Balance on hand	7 28	
	<u>\$1,500 00</u>	<u>\$1,500 00</u>

Respectfully Submitted,

• GEO. C. WINSLOW,
THO. A. PALMER,
FRED. HOTOP,

Committee on Public Grounds and Buildings.

Report of the Committee on Sewers and Street Grades.

To the Honorable, the Mayor and City Council:

GENTLEMEN—Your Committee on Sewers and Street Grades submit the following report of the work of their department for the fiscal year now closed:

Upon assuming the duties devolving upon our committee, we found a considerable number of petitions for sewers on file in the City Clerk's office, some of which were presented to the council in 1882, and were endorsed by the committee of that year, but upon which no action had been taken in the way of actual work. These petitions were duly considered by your committee and as soon as the proper preliminary steps could be taken we proceeded to construct the sewers petitioned for in the order of presentation of the petitions, as is shown more at length in the following portions of our report and in the report of the Engineer.

Aside from the general expression of the citizens living along the lines of sewer alone referred to, by way of petition, your committee have been personally appealed to by a large number of the citizens so petitioning, and the large majority of buildings which have been connected with these lines of sewer upon the first opportunity, demonstrate the popularity of the sewerage system and they will materially increase the healthfulness of this section of our city.

A large number of petitions for sewers have also been presented to your board since its inauguration, and upon the authority from time to time given by the council, the sewers so petitioned for have been constructed as promptly as the nature of the work would permit and in the order of presentation of the petitions.

In addition to the sewers built on petition, as above, your committee has also constructed a line of lateral sewer on Church and Main streets under orders from your board, based on their necessity for the preservation of the public health.

For a detailed account of the cost and extent of sewer construction during the fiscal year, you are referred to schedule "A" in the report of the Engineer.

Petitions for lateral sewers upon south West street, west Lovell street, west Kalamazoo avenue and west South street, properly signed by the majority required by ordinance, were received at a late date last season, but the

severity of the weather at that time made a suspension of the work imperative. These lines are, however, now under contract, as are also the lines on north Burdick street, north Rose street and Eleanor street, which were ordered built by your board on the ground of their necessity for the preservation of the public health and the restoration of the purity of the Arcadia creek.

In this connection your committee desire to call your attention and the attention of their successors, to the advantages of the earlier portions of the season for sewer construction and the restoring of street surfaces. We were unavoidably delayed in the construction last season for the reason that no preparation for active work had been made previous to our assuming the duties of the committee, and much of the best portion of the working season had passed before we were able to make the necessary preliminary arrangements. We have endeavored to make such arrangements for building all sewers petitioned for the past season, which we were unable to construct; these arrangements will make it possible to begin the work promptly in the spring.

Your committee report with pleasure a very general and cheerful compliance on the part of the citizens with the rules of the sewer department and a very cheerful endurance of the inconvenience necessarily arising from torn up streets and pavements, obstructed driveways, etc.

In this connection we desire to call your attention to the advisability of an early and general construction of sewers and particularly of house connections in all streets which are likely to require paving or surfacing with gravel in the near future. It has been the aim of your committee to require the street surfaces to be replaced as expeditiously and as nearly in their original condition as possible, and while we believe this matter has been faithfully attended to, we desire to call the attention of the council to the fact that the proper surfacing of a roadway, either of gravel or pavement, is a labor in which time is an essential element. Our best gravel roadways have required the labor of years in their formation and solidification, and obviously it is not possible in the nature of things, to tear them up to a depth of a dozen feet and replace them in equally good condition within twenty-four or forty-eight hours after the work is completed, at any cost. The building of isolated house connections is particularly damaging to the pavement, much more costly and more difficult to supervise. Though making no recommendation to our successors, we desire to call their attention to these facts as demonstrated by our experience.

Your committee have been at considerable pains to ascertain the actual condition of our system of sewers and its adaptability to our city, and from observation of their workings, from their general commendation by parties using them, which is the true test, and from the general desire of our citizens to avail themselves of their use as evinced by the numerous petitions for their extension which have been presented to your board during the year. We are of the opinion that the adaptability of the system to our city and the good judgment of those of our citizens who have been instrumental in its inauguration have been demonstrated beyond dispute. In this connection your attention is called to the very light expenses of maintenance and repairs during the three years of active use, and to the extent and comparatively light

cost of the system to date, as shown in detail in the Engineer's report. It is also our opinion that it should be promptly extended to every business and residence portion of our city upon the receipt of petitions from the citizens signed by the majority required by ordinance.

Proper facilities for sewerage are of benefit not only to the individual accommodated thereby, but the proper drainage of each dwelling is as much a matter of public interest and profit as is the suppression and isolation of a contagious disease, and every citizen should be interested in securing these facilities for himself and also for his neighbor whose misfortune he may share. These principles may be amply illustrated in our city the coming season if we should have, as we are assured by competent authority we may, an outbreak of Asiatic cholera.

The ordinance on sewers enacted by your board early in the year and under which the work of the year has been done, and the special assessments levied, is substantially the ordinance recommended by the original commission after thorough investigation with the exception of a slightly higher rate and is based upon frontage. Your committee have found the ordinance entirely satisfactory and the methods of assessment by frontage as fair in their opinion as any that can be devised, and much less costly and formal than the methods of the previous ordinance, and your committee would suggest to their successors that changes in methods of work that have been well established and with which citizens and department are familiar, are not made without cost and temporary embarrassment. In this connection we call your attention to the following statement condensed from the City Treasurer's report regarding the assessments of the fiscal year:

Total tax levied.....	\$6,989 50
Remitted.....	209 20
Paid	6,654 55
Unpaid (only one, that of St. Luke's Society).....	125 75

The above statement demonstrates the practicability of the methods of assessments above referred to, and is a compliment to the promptness of our citizens in meeting them, there being but one unpaid assessment.

The work of the sewer department for the fiscal year and its financial condition is briefly summarized in the following statement:

CONSTRUCTION AND MAINTENANCE.

Lenial feet of Lateral Sewer built.....	12,148.	
Total cost.....		\$7,662 31
Cost per foot.....		63
Lenial feet of Connecting Sewer built.....	3,707.	
Total cost.....		1,389 86
Cost per foot.....		37½
Cost of maintenance.....		144 23
Cost of repairs		13 30

FINANCIAL STATEMENT.

Balance in Sewer Fund, April, 1884.....	\$3,971.59
Appropriation	5,000.00
Assessment and Collections.....	8,548.71
Orders drawn.....	9,321.86
Balance in Fund, April, 1885.....	8,072.65

Your attention is called to the information in detail given in the Clerk's report of orders drawn and to schedules "A," "B," "C," "D," "E," and to the

map of the lines now constructed, in the Engineers's report given in a convenient form for reference.

First—A statement of the bids received for sewer construction.

Second—A statement of the lateral sewers built under the contract awarded.

Third—A statement of the connecting sewers built during the year.

Fourth—A statement of the cost, for the year, of each sewer.

Fifth—A statement of the cost of each sewer and of all sewer work to date and its location.

We desire also to call your attention particularly to the condition of our sewers at the present time, and to the large amount of sewage now being discharged by them, as indicated by the measurements lately made by the Engineer and exhibited in detail in his report. The complete removal from the vicinity of our city of an amount of sewage equal to one-half the pumpage at the water works pumping station, and its diversion from the subsoil beneath us into which it otherwise must percolate, will undoubtedly be a large factor in maintaining the healthfulness of our city.

Though the cost per foot of sewer construction the present year has been very low (63 cents) it should be remembered that the cost in previous years has of necessity been considerably heavier, including as it does changes which contemplate the extension of the system over a considerable territory, and which have not now to be borne. It is upon the ultimate cost of the completed system that assessments should be based. As previously stated the cost per foot of the system so far as constructed is \$1.20. It will probably be considerably reduced in the near future, as it has the past year, but it can never reach as low an average as the average for a single succeeding year of ordinary work properly managed.

In view of these facts, the present rate of assessment should not be materially lowered at present. We believe from careful investigation that the charges as now adjusted offer facilities for house drainage cheaper than the cess-pool plan and incomparably better.

In regard to the action taken in the matter of the increasing pollution of Arcadia Creek, your attention is called to the table of analysis of water from various sources, and to the comparisons and deductions made from such analysis as given in the Engineer's report. We call your attention also to the many communications from the Health Officer, the Committee on Health and from many of our physicians touching the necessity of action in this matter.

Your attention is also called to the very small percentage of cases of diphtheria which have occurred during a very general epidemic of the disease, where the premises are connected with the public sewers, as given in detail in the report of the Health Officer. These are facts from which but one inference can be drawn.

Again we would call your attention to the efficient working of our system of sewers. And we are not extravagant when we recommend its extension and adoption by every family along its lines. The sooner this work is accomplished, the better it will be for the general health.

We acknowledge our incredulity previous to our being placed in charge of this department by our honorable Mayor, and our thorough examination

into the workings of the system. This we have faithfully done, and though somewhat against our former ideas of sewerage we find it entirely satisfactory and as near a perfect system as any that could have been adopted for the use of our beautiful city, and we would earnestly request those persons who differ from us in this opinion to give it their attention long enough to ascertain the facts before condemning it.

In our opinion our citizens owe a debt of gratitude which they cannot easily pay to Hon. H. G. Wells, Dr. Foster Pratt, Hon. Allen Potter, Hon. S. S. Cobb and Dr. H. O. Hitchcock, the original Sewer Commission, to whom we are indebted for our present efficient system of sewers. If the system is continued to completion it will afford our city as good facilities for sewerage as any city in the world similarly located can have.

STREET GRADES.

A statement in detail of the street grades established during the year will be found scheduled in the report of the Engineer. The total length of grade lines established is about seven miles.

Your committee consider the establishment of street grades a matter of very great importance. Too often our streets are worked with no regard to drainage, and streets upon which the inclination is ample with proper care in grading, are left in such condition that water settles into the roadway, this in connection with the shade from our numerous trees, preventing its evaporation, destroys the road surface.

In many cases streets have been worked to such grades as to obstruct the natural water channels.

Street grades can be properly established only by taking into consideration the whole territory naturally forming a drainage basin and so locating the grades with reference to each other as to ensure the perfect drainage of every portion of the territory within these limits. The establishment of isolated grades without reference to the adjoining territory can not result satisfactorily.

Upon all streets where grades are established all work should be done with reference to the established grade, so that in time the system of surface drainage may be complete.

The partial grading of streets will generally prove more expensive in the end, as breaking up and removing a thin layer of material well compacted is very costly in proportion to the amount moved. The proper surfacing of a street after grading is also a costly process and requires time and traffic. Streets should therefore, when practicable, be brought to the proper and final grade in the first instance.

The establishment of grades on all lines of street railway is a matter of necessity and when such lines are built the streets should be brought to the established lines particularly as the traffic is driven from the center to the shoulders of the roadway and are confined within narrow limits.

In conclusion we urge the necessity of an early establishment of grades on streets where none are established, believing that economical expenditure in the street department can not be made without a general plan of work.

We would say that in assuming the responsibilities of this department, without previous experience or knowledge of the work we have had to do, it

is natural that we should make many mistakes and become the subject of many harsh criticisms, which we have borne with the kindest of feelings. We have, however, tried to the best of our ability to do what we deemed to be for the best interest of our city and the majority of its citizens. And we hope that our successors in this department, in taking up the work where we have laid it down will prove much more efficient and satisfactory to the public.

In conclusion we wish to thank the Mayor and each member of the Council, together with our efficient City Attorney, Engineer, Clerk and Water Commissioner for hearty support and many acts of kindness. We wish to assure you that they have not nor will they soon be forgotten by your retiring Committee on Street Grades and Sewerage.

A. L. LAKEY,

FRED. HOTOP,

OTTO HILING,

Committee on Sewers and

Street Grades.

Report of the City Engineer.

To the Honorable, the Mayor and City Council:

GENTLEMEN—Your Engineer respectfully submits the following report of of the work in his department during the fiscal year now closed:

SEWERS.

The want of previous preparation for sewer construction, and the pressure of other work early in the season, prevented as early a beginning of sewer construction as is desirable, and we were consequently overtaken by cold weather before its completion.

Bids for sewer construction were invited by advertisement and were opened July 1st. A statement of the bids submitted and the estimated cost of the work then proposed to be done at the prices bid, will be found in schedule "A." The amount of this work was increased upon the presentation of petitions for other lines.

The contract was awarded to W. A. Doyle, he being the lowest bidder, and the work was begun by him July 9th and continued without interruption until its completion November 29th. The work was faithfully and well performed. Schedule "B" shows the amount and location of lateral sewers built under his contract. The connecting sewers on laterals No. 3, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, a statement of which can be found in schedule "C," were also built under this contract.

These sewers were built in loose, sandy and gravelly soil, easily excavated but requiring strong bracing and close sheet-piling. The average depth of excavation was $8\frac{1}{2}$ feet. A portion of lateral No. 27 was laid in water and quicksand.

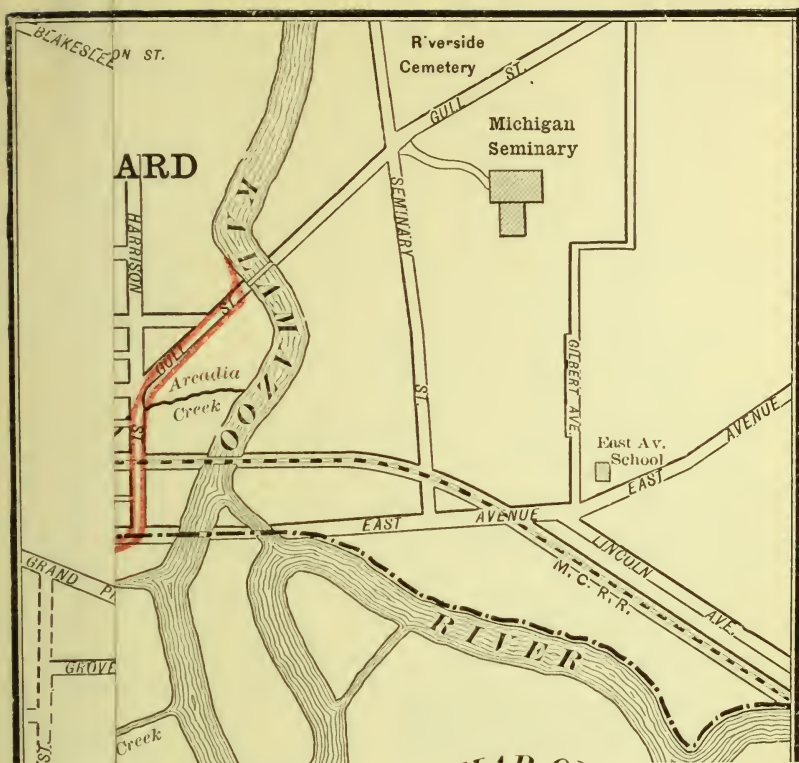
I call your attention to the very favorable showing of the cost of construction as exhibited in schedule "D." A proper apportionment of the general charges being made between the lateral and connecting sewers, gives a total cost of \$0.63 per foot for lateral sewers, and $\$0.37\frac{1}{2}$ per foot for connecting sewers.

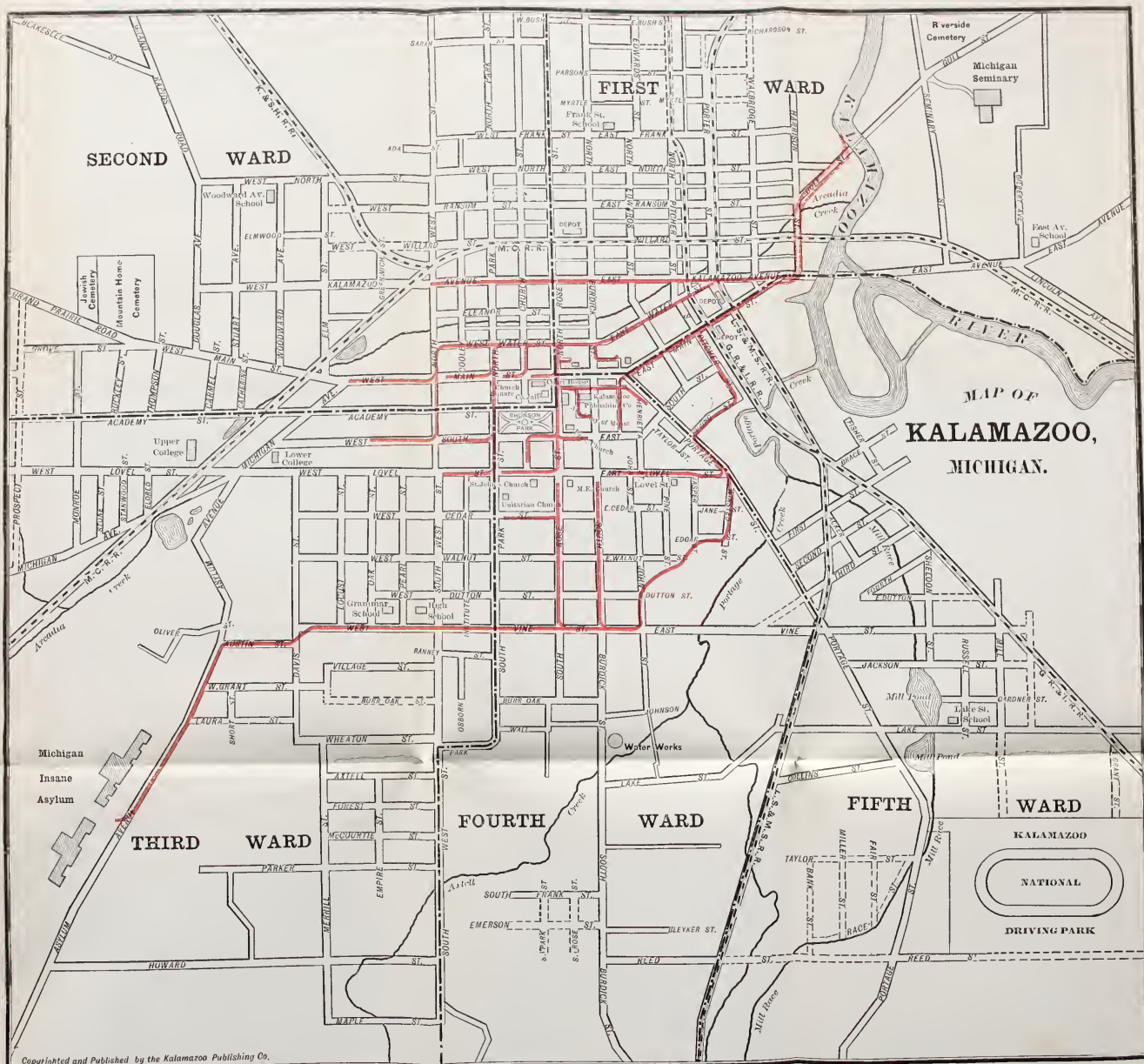
This reduces the average cost per foot of the main and lateral sewers constructed to date to \$1.20, the cost per foot at the close of preceding year being \$1.44. The total cost to date of all sewer work is given in schedule "E."

Many of the expenses of previous years' work which were incident to a general plan are much reduced now that the department is well organized, and some of the heavier lines constructed and the average cost per foot of the system should be lowered with each succeeding year's work.

The total extent of the system as now constructed is indicated on the map submitted herewith.

Our system of sewers have now been in active operation three years. Since





its inauguration it has been favorably and unfavorably criticised by our citizens to about the extent usual in public works of this kind. The period of its inauguration is now passed, and the numerous petitions from citizens for the extension of sewer lines indicate a general appreciation of its merits.

Though not desiring in this report to discuss generally the merits of this system, I still think it proper, and perhaps of interest to your board and our citizens at this time, to state a few facts in regard to the system as constructed here.

We have now in operation nearly ten miles of main and lateral sewers; their construction began in 1881. The total cost of the system to date is \$53,488.50. The total cost per foot is \$1.20. The total cost of a semi-weekly inspection and of maintenance and repairs to date is \$636.69 or an average of \$159.17 for each year. This semi-weekly inspection of the lines has been continuous since their first use. The total cost of repairs to date has been \$60.55.

The total cost of construction as above given represents a total tax of 1.7-100 per cent., based upon an average assessed valuation of \$5,000,000, or an average tax for each of the four years of 27-100 per cent.

Our city has never issued bonds for sewer construction, and during their construction has paid all costs from the sums assessed as above, and is now free from debt.

Of the total cost, the city has realized but \$16,578.55, or 31 per cent., and prior to the present year but \$8,029.84 from special assessment, \$5,000 of which was paid by the state.

From March 9th to 16th last a test was made of the total amount of sewage discharged by the different mains, and Engineer Chandler at the same time kept hourly records of the pumpage at the Water Works. Of the total amount of water pumped on Monday, March 9th, 1,350,788 gallons, the sewers discharged 641,640 gallons, or about one-half (47.5-10 per cent.), and also, in addition the sewerage of the Asylum for the Insane, amounting to 164,510 gallons, making a total discharge for the twenty-four hours of 806,150 gallons.

These relative discharges and the hourly variations in flow for the twenty-four hours of Monday, March 9th, are indicated graphically by the following diagrams. The discharges are computed from weir measurements.

The following schedule exhibits the daily variation in flow in the Water street main sewer for a period of one week. The discharge is computed from weir measurements, taken at the corner of Ransom and Harrison streets at noon of each day, which is about the time of maximum discharge at that point:

Date.	Discharge in Gallons per Min. at 12 M.		Average discharge per min.....	308 gallons
March 9	.....255.....	Minimum	Maximum " " "	405 "
" 10	.....255.....		Minimum " " "	255 "
" 11	.....266.....		Percentage Relation of Maximum and Minimum Daily Discharge to average Daily Discharge.	
" 12	.....405.....	Maximum	Average discharge per min.....	100
" 13	.....344.....		Maximum " " "	131
" 14	.....344.....		Minimum " " "	82
" 15	.....287.....			

These measurements show an extraordinary use of water for the number of persons using the sewers. The difficulty of surpressing water waste, is, however, general in American cities, and the consumption often exceeds 100 gallons per diem per capita.

The following schedule exhibits the hourly variations in flow of the Water street main sewer on Monday, March 9th, and also the total discharge for the twenty-four hours:

MONDAY, MARCH 9, 1885.			
Time.	Discharge in Gallons per Min.	Discharge in Gallon per Hour.	
1 A. M.	233	14,000	Minimum
2.....	227	13,600	
3.....	224	13,440	
4.....	230	13,800	
5.....	234	14,040	
6.....	242	14,500	
7.....	244	14,640	
8.....	265	15,900	
9.....	255	15,300	
10.....	265	15,900	
11.....	258	15,500	Maximum
12 M.....	258	15,500	
1 P. M.	255	15,300	
2.....	265	15,900	
3.....	273	16,400	
4.....	287	17,220	
5.....	275	16,500	
6.....	276	16,560	
7.....	265	15,900	
8.....	257	15,400	
9.....	255	15,300	
10.....	255	15,300	
11.....	253	15,200	
12.....	250	15,000	
Total..		366,300	

Total discharge in 24 hours.....	366,300 gallons
Average discharge per min.....	254 "
Maximum " " ".....	287 "
Minimum " " ".....	224 "

Percentage Relation of Maximum to Minimum Hourly Discharge to the Average Hourly Discharge, on Monday, March 9, 1885.

Average discharge per hour.....	100
Maximum " " ".....	113
Minimum " " ".....	88

The main and lateral sewers have never been cleansed otherwise than by flushing since their use, and are now free from deposit.

There has never been an obstruction in any main sewer.

There have been two partial obstructions in 6 inch lateral sewers; one was caused by a 4x8 inch mouse trap, and was removed through a man-hole; and the other by injuries to the sewer in grading the street above it, and was removed by excavating. The total cost of removing these obstructions, covering a period of four years use, was \$18.00.

There have been but two stoppages in 4 inch house sewers during the year that have made it necessary to excavate for their removal. There have been two or three others that have been removed by cleaning rods or hose.

Our city was one of the first to adopt a separate system; the first application of the system on an extended scale having been made in Memphis the previous year (1880.) Though a departure from the ordinary method of sewerage, it is founded upon well established principles, and is now proven to be well adapted to our city. The following criticisms will indicate the opinion of engineers on this system as built elsewhere:

In the last report of the City Engineer of Memphis, where the system was so generally introduced in 1880, he states: "The plan and system is certainly a good one and continues to work admirably."

The City Engineer of Chelsea, Mass., states in his last report that, "The

sewers have worked perfectly well, and are cleaner than any sewer in the city."

In a report on the application of the system in Paris, by Ernest Pontzen, (Civil Engineer, he states: "The first application of Waring's system of sewerage (l'assainissement suivant le system Waring) made at Paris in 1883, in a quarter combining every unfavorable condition, has had complete success. The sanitary arrangements, according to Waring's system, leave nothing to be desired as to healthfulness, and the whole system of sewerage has not given rise, during the five months it has been in operation, to the least complaint."

The cost of an equal extent of sewers, designed to receive storm-waters in addition to house wastes, and large enough to be available as outlets for further extensions when they shall be required, could not have been met by the city without issuing bonds or a taxation heavier than the citizens would have submitted to.

The building of sewers on so general a plan without contracting liabilities for future settlement, is a matter for congratulation, and so far as I know, has been accomplished in no other city.

In regard to the polluting effect of cess-pools, privy vaults and house wastes, an examination of the following table will be of interest. The table is compiled from analysis recently made by J. L. Fitzgerald:

LOCATION.	Chlorine in parts per 100,000.
Kalamazoo River, Gull Street Bridge.....	1.0
Arcadia Creek, Porter Street.....	1.0
Arcadia Creek, Main Street.....	0.4
Asylum Sewer, Asylum Avenue and Austin Street.....	1.6
Main Sewer, Water Street, Gull and Ransom Streets.....	1.7
Main Sewer, Vine Street, Gull and Ransom Streets.....	2.5
Water Works Well.....	1.0
Water Works Well.....	1.0
Mrs. Julia E. Stewart's well, South Edwards Street.....	1.7
Barrett's well, Main and Church Streets.....	3.1
Private well, corner of North and Cooley Streets.....	1.1
Manhole at out let.....	2.4

On examinining the above table we see that Arcadia creek at Main street contains but 0.4 part of chlorine per 100,000. At porter street, after passing through a district whence it receives considerable sewage from hotels and factories, the quantity has increased to 1.0 part per 100,000, $2\frac{1}{2}$ times more than at Main street, thus plainly showing the contaminating effect of the sewage received.

It must be born in mind, that the creek naturely contains only a small quantity of chlorine, being mostly surface water. All the subsoil in this region contains some mineral chlorides, hence all well waters will show chlorine to a larger extent than unpolluted streams.

We also see that Barrett's well, corner Main and Church streets, right in the older part of the city, contains 3.1 parts chlorine per 100,000, much more than the sewage at the outlet, which contains 2.4 parts per 100,000, and three times as much as the normal well water. Sewage in previous years before a system of sewers was built, has evidently run in the well and there concen-

trated. Were there no sewers in the city the soil would soon become saturated with foul matter, and the effect this would have on the health of the community can easily be imagined.

STREETS.

Surveys for street grades have been made on the streets shown in schedule "F," and the grades adopted by the Council. There are still many streets within the thickly built portions of the city upon which no grades are established and on which grades are frequently called for by citizens who desire to erect buildings, build cement walks, or make other permanent improvements. The perfection attained in cement walk building in our city and the rapidly increasing length constructed each year, is adding largely to the beauty of our streets and to the convenience of the public generally, and deserves every encouragement from the Council in the way of furnishing grades and lines. The beauty of these cement walks has often been remarked by strangers visiting our city, and I have had many letters of inquiry regarding them. Grades should be established as rapidly as possible where they are lacking, so that citizens can have the information upon application.

This work should be very carefully done in the first instance, and subsequent changes should not be made without good reason.

Many applications for street lines have been received, but in most instances the lines could not be given for the reason that in many of the streets no monuments are set, and the street lines can be ascertained only by an extended survey. A resurvey of nearly all street lines in the city is a necessity.

Such a survey will enable us to give the street line for a single block at any time on short notice, and applications for street lines invariably come when the office is crowded with other outdoor work, and time can not be spared for a general survey. Citizens generally show a desire to conform to the street lines when they can ascertain where they are, and I believe, could the information be promptly given, the irregularities in street lines would soon be corrected. Neglect in this matter is likely to bring heavy cost on the city in the future. In some instances our main avenues have already been considerably encroached upon.

We have about 80 miles of street within the city limits, 50 miles of which are within the portion of the city well built up. A large proportion of these streets are not properly improved.

We have but one mile of paved street, some of which is in poor repair. Some of our main avenues leading into the country, and over which there is an immense traffic, are not of proper grades or surface.

This condition of things can be changed only by devoting a portion of our street funds toward improvements of a permanent and lasting character, and before large expenditures in this department are made, we should carefully investigate the suitability of the various kinds of pavements and methods of construction adapted to our city, the economy of their construction and maintenance and the best manner of utilizing such materials as we can readily and cheaply obtain in our immediate vicinity.

We are not without advantages in this respect. There are inexhaustible quantities of the best of gravel close at hand, and stone for cobble paving or

SCHEDULE "A."

TABULATED STATEMENT OF PROPOSALS FOR BUILDING LATERAL SEWERS NUMBERED 18, 19, 20, 21
AND 22, OPENED BY THE COMMITTEE, JULY 1, 1884.

DESCRIPTION.	Quantities.	William A. Doyle.		Thomas Dorgan.		Geo. Rickman.		Edw. O'Brien.		E. H. Hunt.		C. B. Hyde.	
		Bid.	Product.	Bid.	Product.	Bid.	Product.	Bid.	Product.	Bid.	Product.	Bid.	Product.
For laying 8 inch pipe per foot.....	2,000 feet	\$.01	\$ 20 00	\$.04	\$ 80 00	\$.03	\$ 60 00	\$.08	\$ 160 00	\$.04	\$ 80 00	\$.08	\$ 160 00
" " 6 "													

COMPARATIVE STATEMENTS SHOWING DIFFERENCE IN THE COSTS OF THE
WORK ON THE SEVERAL PROPOSALS.

NAME OF BIDDER.	ESTIMATED COST.	William A. Doyle.	Thomas Dorgan.	George Rickman.	Edw. O'Brien.	E. H. Hunt.	Chas. B. Hyde.
William A. Doyle.....	Lowest.....	\$3,744 00	\$895 00	\$1,337 00	\$1,999 00	\$2,891 50	\$4,136 00
Thomas Dorgan.....		4,329 00		442 00	1,104 00	1,906 90	3,241 00
Geo. Rickman.....		5,081 00			662 00	1,554 50	2,739 00
Edw. O'Brien.....		5,743 00				892 50	2,137 00
E. H. Hunt.....		6,635 50					1,244 50
Chas. B. Hyde.....	Highest.....	7,880 00					

broken stone roads, can be had at about the cost of hauling. We can also secure materials for wood paving on very favorable terms.

Material improvement in the condition of our streets and pavements can be made only on a plan contemplating the life of the city beyond a twelve month term.

I recall with pleasure the kindly relations of the past year and the many courtesies shown me by members and officers of the Council, and acknowledge the faithful aid of my assistants. Respectfully submitted.

GEO. S. PIERSON,

City Engineer.

Tables Accompanying Engineer Pierson's Report.

—(SEE INSET MARKED SCHEDULE "A.")—

SCHEDULE "B."

STATEMENT OF LATERAL SEWERS BUILT DURING FISCAL YEAR W. A. DOYLE, CONTRACTOR.

Number in Tables.	Diameter in Inches,	Length in Feet.	LOCATION.		
			STREET.	FROM	TO
18	6	1645	South Burdick.....	Vine Street.....	Lovell Street.....
19	8	1258	South Rose.....	Vine Street.....	Cedar Street.....
"	6	366	South Rose.....	Cedar Street.....	Lovell Street.....
20	8	752	South West.....	Main Street.....	South Street.....
"	6	1071	West South.....	West Street.....	730 W. South Street..
21	6		South Park.....	Main Street.....	South Street.....
22	6	1324	West South.....	Park Street.....	West Street.....
"	6		South Rose.....	Rose Street.....	St. John's Place.....
"	6		West South.....	Rose Street.....	Lovell Street.....
23	6	956	St. John's Place.....	Rose Street.....	Park Street.....
24	6	600	Cedar.....	South Street.....	Lovell Street.....
"	6	963	West Lovell.....	Park Street.....	West Street.....
25	6	1362	East Lovell.....	Portage Street.....	Burdick Street.....
3	6		North Church.....	Water Street.....	Main Street.....
"	6	500	West Main.....	Church Street.....	Park Street.....
26	6		South Rose.....	South Street.....	Lovell Street.....
"	6	1000	West Lovell.....	Rose Street.....	Park Street.....
27	6	350	West South.....	Rose Street.....	Burdick Street.....

SCHEDULE "C."

STATEMENT OF SEWERS BUILT DURING THE FISCAL YEAR.

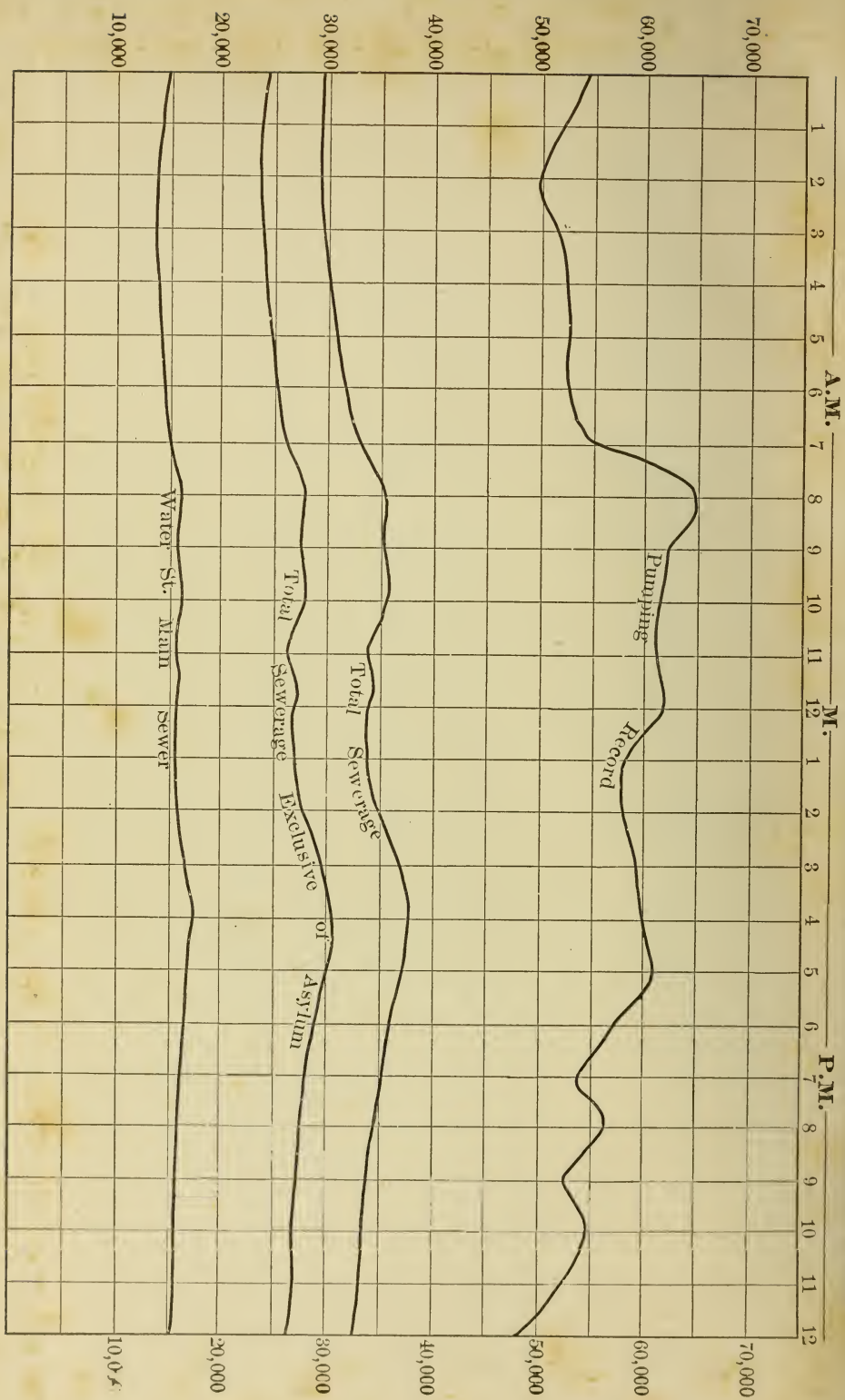
Main and Lateral Sewers.	Street and Number.	Owner of Property.	Remarks.
MAINS.			
Water Street.....	S. E. Cor. Kal. Ave. & Porter 299 to 215 North Edwards.....	L. S. & M. S. R. R..... Wm. G. Pattison.....	Passenger Depot and Office..... Tenements.....
	109 West Water.....	Chas. Lots.....	Saloon and Tenements.....
	202 do	Lawrence & Chapin.....	Foundry (?).....
Ex. Vine Street.....	423 East Main.....	D. C. & H. C. Reed & Co.....	Office.....
	324 Portage.....	C. Weber.....	Residence
	314 do	M. Hill.....	do
	.....(403 & 405 N. Burdick.).....		
Kalamazoo Avenue...	102 West Kalamazoo Ave.....	P. H. Burke.....	Hotel.....
LATERALS.			
Number 1.....	116, 116½, 118 North Rose.....	S. M. Berry.....	Store and Tenements.....
" 2.....	318 West Main.....	T. P. Sheldon.....	Residence
" 3.....	308 to 312 West Main.....	W. Krymer.....	Store and Tenements.....
" 3.....	115 North Church.....	H. Stevens.....	do
" 5.....	240 East Main.....	H. J. McHugh.....	do
" 5.....	212 do	Bassett Estate.....	Barber Shop and Bath Rooms
" 5.....	202 do	City.....	Drinking Fountain.....
" 11.....	132 South Burdick.....	I. A. Brown.....	Store and Tenements.....
" 12.....	..... Taylor Alley.....	P. Ranney.....	Farmer's Sheds
" 12.....	do	Rix Harrow Co.....	Manufactory.....
" 12.....	209 South Burdick.....	Thos. Dorgan.....	Plumber.....
" 12.....	211 do	L. P. & H. J. Fuller.....	Livery.....
" 12.....	119 East South.....	A. P. Cleveland.....	Residence
" 14.....	111 North Burdick.....	P. Ranney.....	Saloon.....
" 14.....	123 do	N. Baumann.....	do
" 14.....	117 do	J. McGibben.....	Residence
" 18.....	405 South Burdick.....	Alex. Cameron.....	do
" 18.....	413 do	P. C. Davis.....	do
" 18.....	419 do	D. Waterbury.....	do
" 18.....	423 do	I. A. Brown.....	do
" 18.....	427 do	do	do
" 18.....	433 do	J. Mitchell.....	do
" 18.....	439 do	H. Bishop.....	do
" 18.....	533 do	B. F. Lyon.....	do
" 18.....	603 do	Mrs. Goss.....	do
" 18.....	609 do	M. J. Goss.....	do
" 18.....	613 do	J. Maloy.....	do
" 18.....	621 do	Chas. d'Arcambal.....	do
" 18.....	709 do	J. Reidesma.....	do
" 18.....	416 do	M. Desenberg.....	do
" 18.....	428 do	H. O. Hitchcock.....	do
" 18.....	524 do	I. W. Fisk.....	do
" 18.....	528 do	C. Miller.....	do
" 18.....	604 do	R. H. Buckhout.....	do
" 18.....	610 do	Wm. Boylan.....	do
" 18.....	614 do	J. M. Snook	do
" 18.....	622 do	J. Holtenhouse.....	do
" 18.....	715 do	J. E. Woodward.....	do
" 18.....	506 do	P. C. Davis.....	do
" 18.....	510 do	J. Schuster.....	do
" 19.....	423 South Rose.....	J. P. Clapham.....	do
" 19.....	129 West Cedar.....	{ Bates Estate	do
" 19.....	1505 South Rose.....	{	do
" 19.....	521 do	Thos. Clarage.....	do
" 19.....	531 do	P. Ranney.....	do
" 19.....	1203 West Lovell.....	{ Silas Hubbard.....	do
" 19.....	1404 South Rose.....	{	do
" 19.....	516 do	Foster Pratt.....	do
" 19.....	530 do	H. E. Hoyt.....	do
" 19.....	615 do	S. E. Speyer.....	do
" 19.....	621 do	J. A. Partridge.....	do
" 19.....	627 do	F. W. Cowgill.....	do
" 19.....	709 do	Geo. Hawcroft.....	do
" 19.....	618 do	T. S. Cobb	do
" 19.....	710 do	Otto Hling.....	do
" 19.....	424 (2) do	Geo. Bardeen	do
" 19.....	510 do	F. J. Henry.....	do
" 20.....	454 West South.....	O. N. Giddings.....	do
" 20.....	503 do	Giles Buruhan.....	do
" 20.....	601 do	N. Chase.....	do
" 20.....	721 do	Mrs. C. S. Potter.....	do

STATEMENT OF SEWERS BUILT—(CONTINUED.)

LATERALS.	Street and Number.	Owner of Property.	Remarks.
Number 20.....	727 West South.....	Geo. Torrey.....	Residence.....
" 20.....	516 do.....	E. J. Phelps.....	do.....
" 20.....	530 do.....	{ Mrs. W. A. Wood.....	do.....
" 20.....	616 do.....	{ do.....	do.....
" 20.....	624 do.....	J. M. Edwards.....	do.....
" 20.....	624 do.....	Delos Phillips.....	do.....
" 20.....	704 do.....	Geo. Bruen.....	do.....
" 20.....	718 do.....	J. Parsons.....	do.....
" 20.....	728 do.....	Allen Potter.....	do.....
" 20.....	445 West Main.....	M. D. Woodford.....	do.....
" 21.....	421 West South.....	S. S. Cobb.....	do.....
" 21.....	427 do.....	R. S. Babcock.....	do.....
" 21.....	435 do.....	D. Liffenfeld.....	do.....
" 21.....	443 do.....	L. Hull.....	do.....
" 21.....	451 do.....	C. Davis.....	do.....
" 21.....	204 South Park.....	J. B. Wyckoff.....	do.....
" 21.....	216 do.....	Mrs. S. H. Ransom.....	do.....
" 21.....	224 do.....	A. T. Prouty.....	do.....
" 21.....	434 West South.....	J. L. Hawes.....	do.....
" 21.....	440 do.....	Geo. Burrell.....	do.....
" 22.....	219 do.....	Geo. Prindle.....	do.....
" 22.....	224 West Lovell.....	J. J. Perrin.....	do.....
" 22.....	309 West South.....	do.....	do.....
" 22.....	304 West Lovell.....	F. Bush.....	do.....
" 23.....	218 West Cedar.....	S. Rosenbaum.....	do.....
" 23.....	226 do.....	Chas. E. Stuart.....	do.....
" 23.....	314 do.....	H. N. French.....	do.....
" 23.....	318 do.....	Mrs. A. Chase.....	do.....
" 23.....	219 do.....	do.....	do.....
" 23.....	225 do.....	D. Boudeman.....	do.....
" 23.....	231 do.....	H. M. Peck.....	do.....
" 23.....	317 do.....	A. L. Lakey.....	do.....
" 24.....	321 West South.....	C. H. Davis.....	do.....
" 24.....	401 West Lovell.....	H. G. Wells.....	do.....
" 24.....	{ 403 South West.....	S. A. Gibson.....	do.....
" 24.....	{ 543 West Lovell.....	{ D. B. Merrill.....	do.....
" 24.....	405 West South.....	J. L. Sebring.....	do.....
" 24.....	324 South Park.....	M. A. Trowbridge.....	do.....
" 24.....	418 West Lovell.....	J. B. Trowbridge.....	do.....
" 24.....	422 do.....	do.....	do.....
" 24.....	446 do.....	K. A. Smith.....	do.....
" 25.....	325 South Burdick.....	Alex. Buell.....	do.....
" 25.....	115 East Lovell.....	F. Baumann.....	do.....
" 25.....	125 do.....	L. W. Hunter.....	do.....
" 25.....	122 do.....	H. B. Osborne.....	do.....
" 25.....	214 do.....	Mrs. E. M. Kuapp.....	do.....
" 25.....	220 do.....	Karl Erling.....	do.....
" 25.....	206 do.....	J. A. Dewing.....	do.....
" 25.....	306-12 do.....	Lovell Street School.....	School.....
" 26.....	315 West Lovell.....	E. W. DeYoe.....	Residence.....
" 26.....	303-9 do.....	St. Luke's Society.....	Church.....
" 26.....	318 to 328 South Rose.....	Sill & Fleming.....	Boarding House.....
" 27.....	115 West South.....	Dutch Reform Society.....	Residence.....
" 27.....	103 (2) do.....	Henry Brees.....	do.....

(See inset marked Schedule "D.")

DIAGRAM CONSTRUCTED FROM PUMPING RECORD AND SEWER GUAGINGS, MONDAY, MARCH 9, 1885.



MATERIAL NOW ON HAND

L/

Trenching.	Pipe Laying.	Lamp Hole Construction.	Man Hole Construction.
.....
.....
\$180 00	\$ 5 00	\$ 5 00	\$10 0
.....
.....
.....
.....
.....
543 05	16 45	17 00	.....
535 84	16 23	17 00	25 0
607 89	18 23	19 00	10 0
436 75	13 23	12 00	10 0
315 48	9 56	8 00	10 0
198 00	6 00	6 00	.....
317 79	9 63	9 00	.....
484 63	13 62	13 00	.....
330 00	10 00	9 00	10 0
117 20	3 50	3 00	.....
.....
\$4,060 64	\$121 45	\$118 00	\$75 00

Material on hand April,
Total orders drawn as per

Total cost as above.....
Material sold.....
Material on hand April,

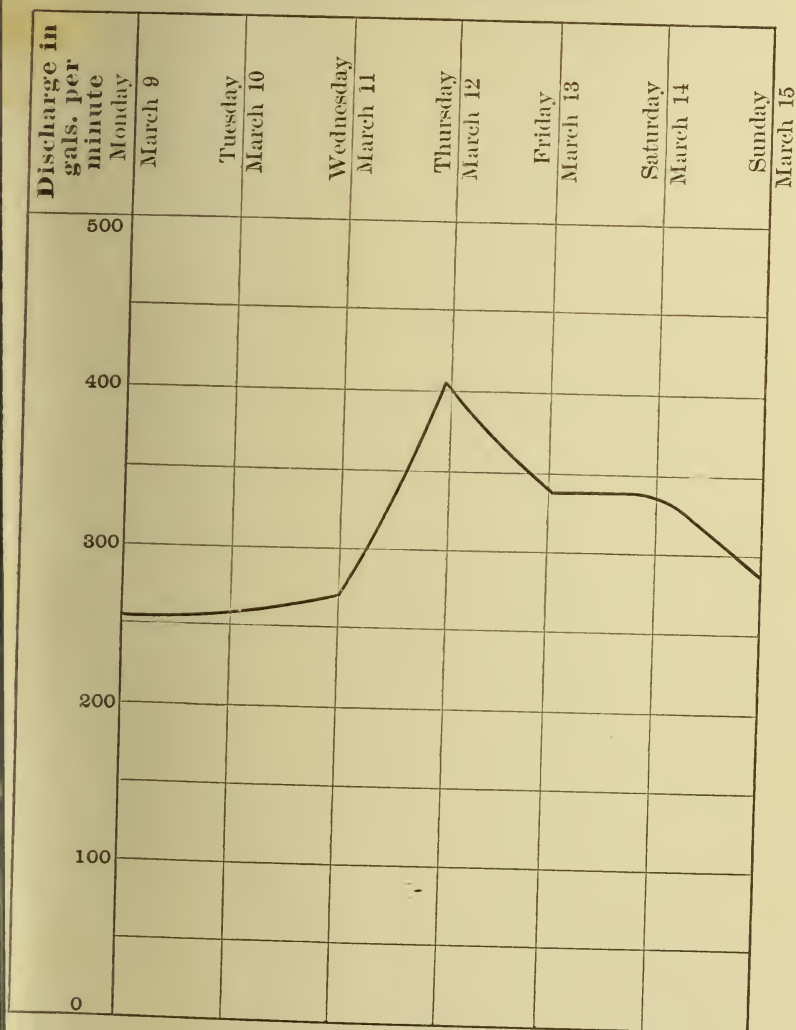
SCHEDULE "D."

TABULATED STATEMENT OF THE COST OF LABOR AND MATERIAL CHARGEABLE TO EACH SEWER, AND OF MATERIAL NOW ON HAND AND DISPOSED OF DURING THE FISCAL YEAR.

SEWER.	LENGTH.		LENGTH OF PIPE.*					MATERIAL.				Office Supplies.	Printing.	Inspection.	Sewer Construction, Incidentals.	LABOR.						MAINTENANCE.				Relate and Assessment	TOTALS.				
	Lateral Sewers	Connecting Sewers.	12 Inch.	10 Inch.	8 Inch.	6 Inch.	4 Inch.	Pipe.	Cement.	Brick.	Castings and Patterns.					Trenching.	Pipe Laying.	Lamp Hole Construction.	Man Hole Construction.	Flush Tank Construction.	Cartage.	Plumbing.	Connecting Sewers.	Pipe Yard Expenses.	Flushing.			Mains.	Laterals.		
Vine Street Extension.....		92						92	\$ 6 42																			\$ 63 67			
Water Street.....		120						120	7 70																			94 35			
Lateral Sewer No. 2.....																			\$ 5 10				30					5 07			
" " " 3.....	500	48						52	61 28	\$ 11 25	\$ 17 00	\$ 32 42		\$10 50		\$180 00	\$ 5 00	\$ 5 00	\$10 00	\$10 00	\$ 7 00	5 07						5 07			
" " " 4.....							624	52											8 04	11 52								369 01			
" " " 5.....		116						116	7 46										5 07									5 07			
" " " 10.....																			75 60									83 06			
" " " 11.....																			5 07									5 07			
" " " 12.....		25						25	2 00										5 07	14 25								21 32			
" " " 13.....																			5 07									5 07			
" " " 14.....																												10 43			
" " " 15.....																												21 72			
" " " 18.....	1,645- 6	869				1,966		922	235 65	25 00	6 65	42 30		34 65	543 05	16 45	17 00		10 00	23 03	8 72	210 35						1,171 74			
" " " 19.....	1,623-75	450				1,498	452	501	255 12	37 50	30 40	58 42		35 13	535 84	16 23	17 00	25 00	10 00	22 75	7 78	117 65						1,168 82			
" " " 20.....	1,823- 9	513				884	1,296	545	260 42	32 50	18 10	42 05		39 33	607 89	18 23	19 00	10 00	10 00	25 55	7 06	123 72						1,207 85			
" " " 21.....	1,323- 5	330					1,562	350	166 58	22 50	15 25	36 80		28 24	436 75	13 23	12 00	10 00	10 00	18 55	5 14	79 20						854 25			
" " " 22.....	956	176					1,122	188	115 26	12 40	18 30	34 30		20 06	315 48	9 56	8 00	10 00	10 00	13 23	11 33	43 08						621 00			
" " " 23.....	600	251					732	267	73 90	10 00	5 70	24 92		12 60	198 00	6 00	6 00		10 00	8 40	6 73	60 24						422 49			
" " " 24.....	963	270					1,156	288	122 32	15 00	5 70	26 79		20 27	317 79	9 63	9 00		10 00	13 51	9 95	64 80						624 76			
" " " 25.....	1,362- 5	268					1,633	284	162 71	15 00	5 70	29 29		28 77	484 63	13 62	13 00		10 00	18 55	7 00	65 66						833 93			
" " " 26.....	1,000	99-5					1,196	105	114 94	15 00	13 00	34 91		21 00	330 00	10 00	9 00	10 00		14 00	6 91	24 55						613 31			
" " " 27.....	350	80					416	96	44 86	5 00	5 77	24 16		7 35	117 20	3 50	3 00		10 00	4 90		19 20						244 96			
General Charges.....												86 15	\$61 03	\$87 41	14 38	\$85 70				4 10				\$7 10	\$137 13			\$254 20			
Totals.....	12,148-25	3,707-5			2,382	12,175	3,565	\$1,636 62	\$201 15	\$141 57	\$483 44	\$61 03	\$87 41	\$272 28	\$85 70	\$4,060 64	\$121 45	\$118 00	\$75 00	\$110 00	\$173 57	\$121 79	\$1,048 32	\$7 10	\$137 13	30	\$13 00	\$254 20	\$9,209 70		
STATEMENT OF MATERIAL.																															
Material on hand April 14, 1884.....			196	100	186	1,794	2,078	525 91		3 30	217 47	\$ 746 68																\$ 746 68			
Purchased during fiscal year.....			36	24	2,824	11,670	4,040	1,648 97	201 15	138 27	586 55	2,574 94																9,321 86			
Totals.....			232	124	3,010	13,464	6,118	\$ 2,174 88	\$201 15	\$141 57	\$804 02	3,321 62																\$10,068 54			
Amount brought down.....					2,382	12,175	3,565	\$1,636 62	\$201 15	\$141 57	\$483 44	2,462 78																			
Rejected material on hand.....					160	905		100 64				100 64																			
Material disp. of by order of Sew. f Goods.....			124	60	628	490		129 88				129 88																			
Com. and used in other dept's (Rejected.....			76		136	17 28						17 28																			
Material on hand April 13, 1885.....			108	64	392	1,922	1,927	290 46				320 58	611 04																		
Totals.....			232	124	3,010	14,730	6,118	\$ 2,174 88	\$201 15	\$141 57	\$804 02	3,321 62																			
Material on hand April, 1884.....																												\$ 746 68			
Total orders drawn as per Clerk's Report.....																												9,321 86			
Total cost as above.....																												\$9,209 70			
Material sold.....																												147 16			
Material on hand April, 1885.....																												711 68	10,068 54		

*Specials are counted double length.

DISCHARGE IN GALLONS PER MINUTE AT 12 (NOON) OF THE
WATER STREET MAIN SEWER.



SCHEDULE "F."

STREET GRADES ESTABLISHED DURING THE FISCAL YEAR.

STREET	FROM	TO	LENGTH.
East South.....	Rose.....	Pitcher.....	2,050
Portage.....	Main.....	Fair Ground.....	4,900
Woodward Avenue.....	Main.....	North.....	2,100
Cedar.....	Burdick.....	West.....	1,750
Edwards.....	East South.....	Main.....	500
Pitcher.....	Main.....	Spring.....	900
Water.....	Rose.....	West.....	1,400
John.....	Cedar.....	Vine.....	1,300
Vine.....	Burdick.....	Portage Creek.....	1,100
North Park.....	Main.....	Arcadia Creek.....	700
South Park.....	Main.....	Vine.....	2,750
South West.....	Main.....	Vine.....	2,700
North West.....	Main.....	Water.....	350
Walnut.....	John.....	West.....	2,200
Burdick.....	Axtell Creek.....	Frank.....	6,950
South Rose.....	Main.....	Burr Oak.....	3,550
Total.....			35,200

Report of the Committee on Police.

To the Honorable, the Mayor and City Council:

GENTLEMEN—Your Committee on Police respectfully submit their report for the fiscal year ending April 13th, 1885.

The expenditure for the maintenance of the Police Department of the city has been as follows:

Police Pay Roll.....	\$3,635.41
Police and Office Expenses.....	609.10
Salary of Chief.....	1,000.00
Total.....	<u>\$5,244.51</u>

Marshal Wattles in the management of his force has shown good judgment and is deserving of praise, as the disturbances throughout the city, although there is a large increase in the population, have not been in any manner serious, nor in number more than might be expected of a city with nearly 16,000 population.

The force employed in the beginning of the year numbered six men, but was shortly after decreased to five, which number have constituted the working force for the past 11 months, and we here desire to compliment the policemen for their efficiency and the satisfactory manner in which they have discharged their duties.

The protection of our citizens is to a great extent dependent on the watchful care and good judgment of the city police, and while our citizens have ever exhibited a desire to be law abiding in their character, we feel it is necessary the very best men be selected for duty in this important department, as any member who is remiss in his duty or destitute of the proper qualifications, creates difficulty in the management of the whole force. During the year the force have been called on for hard service, notably so in the case of the State Fair to protect persons and property at the National Park grounds. The duties were so well done that the officers of the State Fair association complimented the force very highly, stating that at no place or time had any police force equalled ours in its efficiency or their gentlemanly like conduct.

The expenses of the department have been very small considering the force employed.

The amount appropriated for the department was \$6,000. Expenses as shown by the City Clerk's tables are \$5,244.51, leaving balance on hand of \$755.49 to credit of department.

For full report of arrests, their nature and the disposition of the cases, we

refer you to the report of the City Marshal and the books kept at Police Headquarters, which have been examined by the committee and found in the matter of all entries, very satisfactory.

We have reason to congratulate our city that during the past year no crime of murder has been committed in our limits, while our sister cities have this sad record to make in more than one instance.

We have, however, had for some little time the scourge of the burglar in our midst, the vigilance of the force, however, prevented any serious losses in this direction.

We feel we leave our trust in the hands of men who are competent and willing that the police force should be so organized that the protection of the lives and property of our citizens will be fully secured.

Tendering thanks to our citizens, the Mayor, the City Council and all our officers for the assistance rendered and courtesies extended, we herewith subscribe ourselves.

THEODORE A. PALMER,
FRED. HOTOP,
GEO. C. WINSLOW,

Committee on Police.

INVENTORY.

The following is a schedule of property belonging to the City Police Headquarters:

FURNITURE.

1 office desk, 1 large table, 1 sofa, 1 office chair, 6 chairs, 4 spittoons, 2 ink-stands.

BOOKS OF DEPARTMENT.

1 Police register, 1 Day blotter, 1 Scrap book, 1 Set Local Acts of Michigan.

ACCOUTREMENTS AND CLOTHING.

6 pair handcuffs, 1 pair leg irons, 6 belts, 4 clubs, 11 police badges, 6 dark-lanterns, 4 oilcloth coats, 5 overcoats.

Report of the City Marshal.

To the Honorable, the Mayor and City Council:

GENTLEMEN—I have the honor to herewith submit my annual report of the Police Department for the year ending April 6th, 1885:

Since taking the command of this department it has been my endeavor to secure such prompt obedience to orders and faithful performance of duty as to make the Police Department a credit to our city. The matter of my success I leave to your honorable body and our citizens to determine.

The present members of the force are men who have given satisfaction in the performance of their duties, and whom it is my privilege to recommend.

The total number of arrests during the year were 597, which are classified as follows:

Drunks, 258; vagrants, 188; larceny, 41; assault and battery, 11; burglary and attempted burglary, 3; robbery and attempted robbery, 2; suspects, 13; disorderly, 28; peddling goods without license, 5; indecent exposure, 1; keeping house of ill-fame, 1; common prostitutes, 3; committing adultery, 3; allowing minors to play pool, 2; violating liquor law, 38.

In conclusion, allow me to thank you, gentlemen, for the uniform courtesy which I have received at your hands. Respectfully submitted.

STEPHEN H. WATTLES,

City Marshal.

Report of the Committee on Health.

To the Honorable, the Mayor and City Council :

GENTLEMEN—Your Committee on Health would respectfully submit their annual report for the year ending April 13th, 1885:

During the past year the labors of the committee have been materially lightened through and by the valuable services of our Health Officer, Dr. H. B. Hemmenway.

In the early part of the past year we unfortunately had the scourge of diphtheria to contend with, and by such disease lost 67 children and youths. The means to guard against the spread of the disease were First—the “Diphtheria” card being placed on the premises where the disease existed. Second—the prevention of public funerals. Third—compelling burial within 24 hours. Fourth—certificate from Health Officer required before school attendance was allowed. These in most cases were sufficient to prevent the usual unlimited intercourse between neighbors, and undoubtedly resulted in great good. Outside of this disease the city can be said to have enjoyed the usual freedom from sickness for which it is celebrated throughout the state.

The question of public health is one becoming each year of more importance both to the states separately and to the United States as a whole, and it is a matter of just pride that legislation in nearly every state has been such on this subject as to insure the more perfect working and efficiency of both local and state Boards of Health. In our own case reports have been furnished by the City Clerk and the Health Officer to the state department, giving all the data possible on the subject, and these reports have been considered among the best forwarded to the state department.

Among the various plans devised for the improvement of the sanitary condition of the city is the one of sewerage, in this direction we may feel proud of our record. During the past year long lines have been laid covering districts which have suffered severely from accumulations of cess-pools and all the attendant evils of no drainage.

The committee having the sewerage matters in charge have used every effort to complete the lines petitioned for. Their efficiency has been a source of great relief to your committee in many directions, and we fully appreciate the results of their labors, together with those of our City Engineer, Mr. G. S. Pierson. We trust the good work of sewerage will be fully carried out the present year; especially is it desirable to do so at the present time as the price of material is extremely low in the market.

The various reports made by your committee and now on file relating to the water ways within the city limits we trust will be favorably considered by

the incoming committee, especially the report relating to the Arcadia Creek, in regard to which an ordinance has been drafted to take effect the 1st day of next July.

The matter of cutting the Kalamazoo river through the race channel on east Main street is a project of vital importance, though we do not seek to recommend any particular action, we earnestly desire the incoming council to give it their careful consideration at the earliest possible moment.

The cleaning of the beds of creeks should be carefully attended to, to prevent so much as possible the increase of the area covered by stagnant water in the spring and fall seasons.

The matter of a city hospital is one which we feel in the near future must be taken up for consideration. The report of our Health Officer gives interesting data bearing on this subject, and we refer you to such report.

In the hands of the city Board of Health is placed the power to institute such legislation as will conduce to the general public health and provide safeguards against the spread of epidemic diseases. The possible approach of that dreaded disease, Asiatic cholera, in the coming summer, will call for rigorous measures at the hands of our city authorities.

In summing up the committee desire to say that they are satisfied everything has been done by the various departments, with due reference to its bearing on and in the interest of the general good health of the city.

We report the expenditures of the Health Committee to have been as follows:

Supplies.....	\$479.83
Salary of Health Officer.....	143.75
Total.....	\$623.58
Leaving balance to credit of Committee of.....	\$376.42

We desire to tender thanks to Dr. Hemmenway, the city Health Officer, for the energy and perservance he has shown in the discharge of his many and laborous duties, and also tender thanks to the members of the Council and city officers for many courtesies received at their hands.

H. J. MCHUGH,
HALE W. PAGE,
JOHN F. SCHLICK,

Committee on Health.

Report of the City Health Officer.

To the Honorable, the Mayor and City Council:

GENTLEMEN—As Health Officer of this city I herewith submit my final report for the year just closing:

From the 15th day of April, 1884, to and including the 11th day of April, 1885, there have been reported to, and recorded by the Health Officer, cases of "Diseases Dangerous to the Public Health," as follows:

Measles.....	17 cases
Scarletina.....	49 "
Diphtheria.....	316 "
Erysipelas.....	3 "
Chicken Pox.....	1 "
Sore Throat (reported as diphtheria, but not proving to be true diphtheria).....	10 "
Total.....	396 cases

The above includes cases not formally reported, but which the Health Officer has discovered and duly recorded. Of these, there proved fatal:

Scarlet Fever 1 case or (less than) 2 per cent.

Diphtheria 67 cases or 21.20 per cent.

In two instances children had scarletina, followed immediately by diphtheria, and death occurred from the last named disease.

In the first 292 cases of diphtheria I have taken the trouble to examine into the water supply and sewage of the premises. Out of these 292 cases 62, or 21.23 per cent. were fatal.

Of the whole number the source of water supply was as follows:

Drive Well, 101 cases, or 35 per cent.

Dug Well, 137 cases, or 47 per cent.

Holly System, 53 cases, or 18 per cent.

Cistern 1 case.

Of the 62 fatal cases the source of water supply was:

Drive Well, 10 cases, or 16 per cent.

Dug Well, 39 cases, or 63 per cent.

Holly System, 13 cases, or 21 per cent.

I am informed by the Water Commissioner that 25 per cent. of the population of the city use the Holly water.

Comparing these figures we find that the water from dug wells is by far the most injurious, and that from the Holly system the least so. The comparison of the two tables make a showing slightly against the Holly system, more apparent than real, in as much as other elements came in to increase the mortality among those using Holly water.

Out of the whole number of cases examined, the disposal of sewage was as follows:

33 or 11 per cent. had private cesspools.

In 6 cases, or 2 per cent. the premises were connected with city sewers.

In 253 cases, or 87 per cent. the premises were not connected with city sewers nor had they underground cesspools.

Of the fatal cases:

5 or 8 per cent. had private cesspools.

In 2 cases, or 3 per cent. the premises were connected with public sewers.

In 55 cases, or 89 per cent. the premises were not connected with public sewers, nor had they private cesspools.

In all the above notes, I have included as fatal cases, not only those who have died from the direct action of the disease, but also those who have died from the results following diphtheria.

A large percentage of the cases of diphtheria occurred among the poorer population, where the general surroundings were bad, and the houses old and often rotting.

To prevent the spread of the disease infected places were placarded, and so far as possible we procured the thorough isolation of cases. Before permitting free communication with the noninfected population, we ordered thorough disinfection by the use of burning sulphur. In some cases also bedding and clothing were destroyed by burning. All children from infected families were excluded from the public schools until they presented a permit signed by the Health Officer. In cases of death, burial was ordered within 24 hours after decease, and no public funeral was permitted. Copies of the pamphlet published by the Michigan State Board of health on the "Restriction and Prevention of Diphtheria" were freely distributed in the English, German and Dutch languages. Lastly, but by no means least in importance, every effort was made to secure cleanliness in and around the houses of the people.

In carrying out the above work the Board of Health was effectively aided by the practicing physicians of the city, and by the teachers in our public schools.

A great hinderance was found in the superstition of the lower class, by which the disease was recognized only as a gift from God, and not as the result of their carelessness.

I have estimated the number of deaths in the city during the year as 190 or $12\frac{3}{4}$ per 1000 of population. Of these 67 belong to what are classed as preventable diseases. Of these we subtract 67 from 190, we have 123 as what should be the mortality of the city, or 8 per 1000 of population. There is good reason for thinking, that by careful sanitation, the mortality of the city might be reduced below the 8 per 1000.

It is a matter much to be regretted that we have at present no accurate means of getting vital statistics. An ordinance has been presented to the ordinance committee, of this Council, in accordance with which, before anybody can be buried in, or removed from the city, a burial permit must be issued; such permit to be given after a certificate of death, signed by the attending physician, has been filed with the City Clerk. With such data the

sanitary advisers of the city could direct their efforts to much better purpose. So long, however, as there are no means of ascertaining the facts, and so long as the ordinances of the city, such as they are, are not strictly enforced, not very much can be expected from the labors of the Health Officer of the city.

A new and more perfect system of records for use at the Riverside cemetery should be adopted without delay.

The city greatly needs a public hospital. It is the opinion of the attending physicians that had we had a hospital in which cases of diphtheria could be treated, from 40 to 50 per cent. of the fatal cases of that disease would have been saved. Further, though filth fosters this disease, yet it is communicable from person to person, and by taking the sick among the poor to a hospital, the disease might be more easily checked.

It is not alone for cases of contagious diseases that a hospital is needed. There are constantly occurring cases treated at public expense, which could be more easily cared for in such a building. There is a probability, that if the city should provide a suitable lot, the county might be induced to give the old court house to be made into a hospital.

It would be conducive to the health of the city if the practice of medicine among the dependent poor of the city should be under the control of the Board of Health, and not, as now, under the management of the Poormaster.

The compensation for the services of a Health Officer is entirely inadequate. Not only do those services take the time of the officer, but they tend to limit his other practice.

In view of the feared coming of the Asiatic cholera during the next summer, the State Board of Health in Illinois has undertaken to get a sanitary survey of the state. It is to be regretted that such a survey has not been made of our city, as by that means alone can the exact condition of the city be known.

In conclusion: So far as known there are at the making of this report, the following cases in the city, of "Diseases Dangerous to the Public Health:"

Scarletina, 5 cases.

Diphtheria, 2 cases.

Measles, 6 cases.

Regretting that in the year that is past that I could not have done more for the health of the city, and regretting further, that I cannot now make a better showing for the health of the city during the year, and yet feeling proud of my citizenship in one of the healthiest cities in the country, I remain,

Respectfully,

H. B. HEMMENWAY,
Health Officer.

Report of the Committee on Gas.

To the Honorable, the Mayor and City Council :

GENTLEMEN—Your Committee on Gas respectfully submit the following report for the year ending April 13, 1885:

The amount expended by the committee for all purposes is as follows:

Amount of Appropriation.....	\$4,400.0	
Amount Received for Broken Lamp.....	\$4.50	
Lamps on Hand.....	7.00	\$4,411.50
<hr/>		
Cost of Gas.....	2,364.92	
Cost of Oil.....	158.43	
Repairs, Supplies and New Lamps.....	618.34	
Cost of Lighting Lamps.....	1,135.00	\$4,276.69
<hr/>		
Balance to Credit of Committee.....	\$	134.81

This balance would be much larger, but the expense of lighting the city offices has all been charged against the appropriation, which should properly be drawn upon only to meet the expense of lighting the streets of the city.

As has been the case in former years, not a little trouble has been experienced from the freezing of water in the connecting pipes, and it appears to us that the only remedy for this difficulty is the taking up and relaying of these connections, so that they will be higher at their junction with the lamp-post than at the main. Until this is done, the experience of the past winter will be repeated each succeeding season.

The amount expended for repairs is larger than it should be, but much of it is due to the malicious breaking of glass by boys, and we strongly recommend that some measures be taken to prevent this wanton destruction of public property.

During the year there have been erected 5 new gas lamps and 7 oil lamps, and the total number of lamps now within the city limits is 254, of which 137 are gas lamps and 117 are oil lamps. Respectfully submitted.

HALE W. PAGE,
JOHN F. SCHLICK,

Committee on Gas.

Report of the Committee on Printing.

To the Honorable, the Mayor and City Council :

GENTLEMEN—Your Committee on Printing herewith submit their report for the fiscal year ending April 13th, 1885:

The divisions made in expenditures for printing stationary and supplies have been to a considerable extent changed the past year, each department being charged directly with such items. This leaves, as will be seen, but few items to be charged to our committee, but the nature of these are general in their character and necessarily expensive.

For the publication of all matter pertaining to your committee direct, we have obtained favorable terms, very much under the ordinary charges. The expenditures were as follows:

Publication of Annual Reports.....	\$ 472.02
“ “ Ordinances.....	201.33
“ “ Rules and Regulations and Proceedings.....	150.00
Notices, Proclamations and Dept. Ads., not chargeable to any particular Dept.....	367.38
Total.....	<u>\$1,191.33</u>

The publication of 32 ordinances has been effected and many rules and regulations have also been published. We trust this will assist the incoming Council in many directions for the government of the city, and save labor for the future ordinance committee. The publication of all ordinances and rules has been done in a very satisfactory manner to your committee.

Your committee have no recommendations to make, but would respectfully suggest that in the matter of the publication of the Annual Reports, proposals for the same be received and the work awarded to the lowest responsible bidder; it might be well to carry this farther than the Annual Report and have all the work of the city done so far as possible by contract. We would farther suggest that care be taken to see that all tables and charts belonging to various committee reports be printed in full so that our citizens may by this means gain a clear understanding of all plans and expenditures, together with a knowledge of the practical workings of each department.

We would also suggest that the proceedings of the City Council be published officially and all important petitions or reports be published in full. The cost of this would be immaterial compared with the benefits to be derived by our citizens.

We retire from our duties with thanks to the Mayor, the Council and all city officers for the aid rendered and courtesies.

A. L. LAKEY,

H. W. PAGE,

Committee on Printing.

Report of the Committee on License.

To the Honorable, the Mayor and City Council:

GENTLEMEN—Your Committee on License would respectfully report the following amounts received during the year:

VEHICLE LICENSES.			
From Omnibus and Hacks.....	\$121.82		
“ Street Cabs and Carriages.....	108.74		
“ Drays.....	121.57		
“ Express Wagons.....	94.25	\$	446.38
GENERAL LICENSES.			
From Circus and Shows.....	211.00		
“ Auctioneers.....	51.84		
“ Street Sales.....	266.42		
“ Hall License.....	75.00	\$	604.26
			\$1,050.64
Returned to P. Sanford on account of death.....			1.50
Net Receipts.....			\$1,049.14

FRED. HOTOP,
GEORGE FULLER,
Committee on License.

Report of the Committee on Claims.

To the Honorable, the Mayor and City Council:

GENTLEMEN—Your Committee on Claims submit herewith a statement of the claims against the city, which have been passed upon and approved by us during the year ending April 13, 1885, scheduled according to the several funds from which they were to be paid:

SCHEDULE OF CLAIMS.			
General Fund.....	\$28,684.38		
Street and Bridge Fund.....	18,950.38		
Fire and Water Fund.....	27,386.48		
General Sewer Fund.....	9,321.86	\$84,343.10	

As a rule, the claims against the city which have come before us for approval have been of such a character and have been presented in such condition that we have had little occasion to lay any of them over for investigation as to their correctness and justness. Very few claims have been disallowed by the committee, and such only as seemed to us to lack proof of their validity. Respectfully submitted.

THEADORE A. PALMER,
GEO. C. WINSLOW,
Committee on Claims.

Report of the Committee on Street Railways.

To the Honorable, the Mayor and City Council:

GENTLEMEN—Your special Committee on Street Railways would respectfully report that under the charter granted by the last Village Board, the Street Railway company have built and are operating parte of routes Nos. 1, 3, 5, 6, and substantially all of route No. 4. An extension of one year, from January 6, 1885, being granted on the unfinished portion of route No. 1 and of route No. 2.

We take this opportunity to report on an application for a line to the Asylum from the M. C. R. R. depot, up Rose to Lovell street, up Lovell to Asylum avenue, up Asylum avenue to the Asylum gate, to be known as route No. 7, if adopted. We think such a line would meet a popular demand, and if built and operated under proper conditions, should receive the consent of the new City Council, but before taking any definite action in that direction the Council should investigate the cause of the delay in the building of the lines already commenced. Before authority is given to build any new lines, there should be careful estimates made of the expense to the city liable to be incurred on account of grading, crossings and other outlays, not at present required, and which to a large extent have swollen the amount expended on the streets during the past season, and which were not anticipated by the Village Board when the charter was granted to the Street Railway company.

Although the lines are not completed they are of great convenience especially during the fairs, and will ultimately be of value to the people living away from the business part of the city. The benefits thus obtained are partly offset by the loss of the portion of the street occupied by the tracks and the inconvenience of teams getting in and out of the rails, which will in time require paving between and outside the tracks. Respectfully submitted.

GEO. C. WINSLOW,
HALE W. PAGE,
FRED. HOTOP,
Special Committee on Street Railways.

Report of the Committee on Ordinances.

To the Honorable, the Mayor and City Council :

GENTLEMEN—The special Committee on Ordinances, appointed to act during the year 1884-5 would respectfully submit the following report of the work of the said committee:

They have had under consideration a large number of subjects proposed for ordinances, and have prepared and submitted to the Council thirty-two (32) ordinances which have been accepted, passed and ordered printed.

These ordinances embrace the following subjects: No. 1. Relative to the bond of the City Treasurer. No. 2. Relative to encroachments on the streets. No. 3. Relative to sewers. No. 4. Relative to street railways. No. 5. Relative to the Water Works. No. 7. Relative to licensing vehicles. No. 8. Relative to sewers. No. 9. Relative to the Fire Department. No. 10. Relative to fire alarm telegraph lines. No. 11. Relative to fire limits. No. 12. Relative to auctioneers. No. 13. Relative to pedler's licences. No. 14. Relative to the police force. No. 15. Relative to the public health. No. 16. Relative to sewers. No. 17. Relative to fines and imprisonment. No. 18. Relative to dogs. No. 19. Relative to fire arms. No. 20. Relative to gunpowder, etc. No. 21. Relative to sidewalks. No. 22. Relative to rubbish. No. 23. Relative to the police force. No. 24. Relative to street railways. No. 25. Relative to the protection of public property. No. 26. Relative to building permits. No. 27. Relative to bill posting. No. 28. Relative to theatres, etc. No. 29. Relative to plats. No. 30. Relative to registration. No. 31. Relative to obstructions on streets. No. 32. Relative to street railways. No. 33. Relative to Arcadia creek.

In addition to the ordinances, rules and regulations have been reported and adopted by the Council in reference to Sewers and the Water Department.

The committee have also prepared a series of amendments to the city charter, which were approved by the council, submitted to the legislature and by the action of that body made a part of the organic law of the city.

In order to avoid any question, if possible, in regard to the constitutionality of the Recorder's Court, upon the ground of the chapter under which it was organized being included in the same title with the chapter, a separate bill was drafted, under a special title, in substance the same as the former chapter, but containing some changes which experience had suggested. This bill was also submitted to the Council, approved by them and passed by the legislature.

The committee desire to state at this time, that the provision in said act

allowing the same number of challenges to the jury as in courts of record, was made entirely without their knowledge or approval, after the bill had been sent to Lansing and printed. They regret that it was made, as in their judgment it will not conduce to the interests of justice, or the convenience of the court. They would recommend that the proviso be amended if possible at the next session of the legislature, so as to provide for one peremptory challenge to talesmen by each party, which was the reading as prepared by the committee.

The committee would also recommend that an ordinance relative to the building and keeping in repair of sidewalks, by private parties, be considered by the council at an early day. Respectfully submitted.

OTTO IHLLING,

A. L. LAKEY,

E. M. IRISH,

FRED. CELLEM,

Special Committee on Ordinances.

Report of the City Clerk.

To the Honorable, the Mayor and City Council:

GENTLEMEN—While I do not find in the city charter any specific requirement that your Clerk should make any formal report at this time, in the absence of any order from the Council to that effect, I have, nevertheless, taken it for granted and reasonable that it was my duty to meet your undoubted expectation, and present to you a statement of the receipts and expenditures and the financial condition of the city, at the close of this, its first year of existence under the new charter. The following table presents such a statement:

RECEIPTS.

Cash from Village Treasurer.....			\$10,026.35
City Tax Rolls.....	\$59,971.31		
Less Amount Returned.....	2,322.49		54,648.82
Sewer Assessments.....	\$6,989.46		
Sewer Connections, etc.....	1,559.21	8,548.67	
Less Amount Assessment Returned.....		125 75	8,422.92
Liquor Tax.....			13,107.60
Delinquent Tax.....			159.80
Dog Tax.....			186.00
Water Rates.....			9,495.07
Licenses, Vehicle.....	446.38		
“ Micellaneous.....	604.26		1,050.64
Riverside Cemetery, from Town Treasurer.....	353.88		
“ “ “ Sale of Lots.....	478.50		832.38
Fines, Recorder's Court.....			11.00
Town of Kalamazoo, Division of Funds.....			304.04
City Scale Receipts.....			343.21
Street Railway Co., Work on Portage street.....			198.00
Cash for Sidewalks and Crossings Built.....			74.80
Crossing Stone sold.....			38.88
Old Plank, &c. sold.....			84.92
Oil, &c. sold at Water Works.....			62.47
Taps, from Water Commissioner.....			187.00
Sundries, “ “.....			24.34
Incidentals.....			63.00
			<u>\$99,321.24</u>

EXPENDITURES.

Village Orders Paid.....	696.94
City Orders Issued.....	\$84,343.10
Salary of City Recorder.....	1,437.50
Error in Check No. 243, Fire and Water Fund.....	.75
Balance.....	12,842.95
	<u>\$99,321.24</u>

1884-85.	Salaries.	Police.	Registration and Election.	Water Bonds and Interest.	Engineering Supplies and Expenses	Health Office Expenses and Scavenger Work.	Incidentals.	Rebate of Assessments.	MONTHLY TOTALS.
May 5.....	\$ 41 66	\$135	.....	.....	\$173 50	\$ 5 60	\$ 22 60	.....	\$ 859 42
June 2.....	344 15	308	.....	.....	143 33	25 00	2 75	.....	2,463 99
July 2.....	237 91	371	.....	.....	296 88	25 00	32 00	.....	1,095 70
July 7.....	.....	33	.....	.....	7 80	.....	54 07	.....	1,622 75
Aug. 4.....	206 66	320	.....	.....	196 71	25 00	2 00	.....	2,242 42
Sept. 1.....	238 35	336	.....	.....	127 50	25 00	22 00	.....	1,326 27
Oct. 6.....	208 33	429	.....	.....	120 00	28 25	81 50	.....	1,631 47
Nov. 6.....	233 33	241	\$326 75	.....	145 00	36 50	12 00	.....	1,619 50
Dec. 1.....	208 33	265	107 85	.....	140 00	181 75	3 50	.....	1,687 18
Jan. 5.....	233 33	260	24 90	\$5,932 04	181 25	29 50	290 58	.....	9,261 09
Feb. 2.....	220 83	416	16 56	.....	92 50	25 00	42 00	.....	1,530 63
March 2.....	220 83	260	78 75	.....	120 00	48 23	2 00	.....	1,326 56
April 1.....	220 83	260	.....	.....	106 65	25 00	55 80	\$87 74	2,017 40
	\$2,614 54	\$3,635	\$554 81	\$5,932 04	\$1,851 12	\$479 83	\$622 80	\$87 74	\$28,684 38

1884-5.	Street Labor.	St. La.	Scale Supplies.	Salary Superintendent.	Tile.	Engineering.	Damages.	Office Expenses.	MONTHLY TOTALS.
May 5.....	\$ 621 98	\$	\$ 16 10	\$ 40 00	.....	.....	.....	\$ 3 00	\$1,900 06
June 2.....	476 07	.....	.....	75 00	.....	.....	.....	.....	2,909 10
July 2-7.....	1,184 88	1	.....	75 00	\$35 63	.....	.....	.....	5,047 44
Aug. 4.....	287 29	.....	.....	50 00	.....	\$35 01	.....	42 00	1,155 87
Sept. 1.....	637 12	.....	.....	50 00	.....	10 56	.....	.....	2,020 43
Oct. 6.....	684 28	.....	.....	.....	6 00	.....	.....	5 00	2,057 37
Nov. 6.....	639 50	.....	.....	.....	.....	.....	.....	.....	1,399 64
Dec. 1.....	307 04	.....	2 90	.....	.....	.....	25 00	6 80	941 15
Jan. 5.....	86 49	.....	2 25	.....	.....	.....	.....	.....	404 83
Feb. 2.....	20 54	.....	2 25	.....	.....	.....	.....	.....	268 19
March 2.....	125 61	.....	7 25	.....	.....	.....	.....	.....	620 63
April 1.....	114 74	.....	2 25	.....	.....	.....	.....	.....	225 67
Totals.....	\$5,185 54	\$5	\$33 00	\$290 00	\$41 63	\$45 57	\$25 00	\$56 80	\$18,950 38

GENERAL FUND.

1884-85.	Salaries.	Police.	Police Supplies and Jail Fees.	Gas and Oil.	Lamp Supplies and Repairs.	Lamp Lighting.	Office Supplies.	Supervisor Fees and Expenses.	City Hall Supplies and Repairs.	Park Labor and Supplies.	Riverside Cemetery.	West St. Cemetery.	Advertising and Village Reports.	Opening Douglas Ave.	Costs and Damages Peteman Case.	Registration and Election.	Water Bonds and Interest.	Engineering Supplies and Expenses.	Health Office Expenses and Scavenger Work.	Incidentals.	Rebate of Assessments.	MONTHLY TOTALS.
May 5.....	\$ 41 66	\$135 00	\$ 15 58	\$252 00	\$ 3 25	.....	\$116 83	\$ 24 07	\$ 34 60	\$ 15 00	.....	.....	\$ 19 64	.....	.....	.....	.....	\$173 50	\$ 5 60	\$ 22 00	.....	\$ 859 42
June 2.....	344 15	308 32	85 30	258 94	114 80	\$185 00	199 98	562 00	42 99	31 44	.....	\$ 35 00	124 38	.....	.....	.....	.....	143 33	25 00	2 75	.....	2,465 90
July 2.....	237 91	371 75	.....	.....	.....	95 00	.....	.....	32 16	55 67	.....	.....	.....	.....	.....	.....	.....	206 88	25 00	32 00	.....	1,065 70
July 7.....	.....	371 00	169 10	280 50	119 01	.....	193 48	5 50	35 08	55 67	.....	.....	.....	.....	.....	.....	.....	7 80	.....	54 07	.....	1,622 75
Aug. 4.....	206 66	320 00	60 65	262 76	34 88	95 00	118 15	.....	22 72	93 97	223 98	50 25	520 69	.....	.....	.....	.....	196 71	25 00	2 00	.....	1,242 42
Sept. 1.....	218 35	336 00	4 85	210 91	39 93	95 00	50 16	.....	15 87	31 51	78 00	1 50	40 69	.....	.....	.....	.....	127 50	25 00	22 00	.....	1,326 27
Oct. 6.....	208 33	429 33	7 00	269 46	111 96	95 00	94 45	1 25	10 70	36 67	45 88	.....	41 69	.....	\$ 50 00	.....	.....	120 00	28 25	81 50	.....	1,619 50
Nov. 6.....	233 33	241 00	1 63	265 55	1 75	95 00	64 00	60	24 95	33 67	55 67	68 49	13 61	.....	.....	\$326 75	.....	145 00	36 50	12 00	.....	1,619 50
Dec. 1.....	208 33	285 00	2 00	270 27	97 72	.....	4 05	.....	74 01	25 17	34 25	125 74	17 24	.....	.....	1,007 51	24 90	140 00	181 75	3 50	.....	1,687 18
Jan. 5.....	233 33	260 00	63 40	170 00	31 82	190 00	122 79	629 00	45 19	1 73	.....	.....	48 05	.....	.....	.....	\$5,932 04	181 25	290 58	290 58	.....	9,261 06
Feb. 2.....	220 83	416 00	195 86	151 30	12 62	95 00	139 64	.....	84 99	13 64	.....	.....	41 25	.....	.....	.....	.....	42 00	25 00	42 00	.....	1,530 63
March 2.....	220 83	260 00	3 13	34 92	45 00	95 00	5 80	.....	385 20	1 73	18 75	.....	70 54	.....	.....	.....	16 50	120 00	48 23	2 00	.....	1,326 50
April 1.....	220 83	260 00	.....	96 74	5 00	95 00	96 67	40 00	762 96	2 25	.....	.....	84 01	.....	.....	.....	78 75	106 65	25 00	55 80	\$87 74	2,017 40
Totals.....	\$2,614 54	\$3,635 41	\$609 10	\$2,523 35	\$618 34	\$1,135 00	\$1,215 00	\$1,262 42	\$1,548 35	\$372 88	\$456 53	\$289 98	\$1,191 33	\$500 00	\$1,183 81	\$554 81	\$5,932 04	\$1,851 12	\$479 83	\$622 80	\$87 74	\$28,684 38

STREET AND BRIDGE FUND.

1884-5.	Street Labor.	St. Team Labor.	Cleaning Crossings.	Snow Plowing.	Tools and Tool Repairs.	Hardware and Nails.	Paving Blocks.	Crossing Stone.	Lumber for Street Crossings.	Lumber for Bridges.	Rent of Gravel Pit and Gravel.	Paving.	Rent of Scales and Wood Market.	Cutting Weeds and Clearing Creeks.	Scale Supplies.	Salary Superintendent.	Title.	Engineering.	Damages.	Office Expenses.	MONTHLY TOTALS.
May 5.....	\$ 621 98	\$ 826 93	\$ 21 50	\$ 6 00	\$ 3 80	\$ 4 15	\$ 326 25		\$ 28 82	\$ 1 53					\$ 16 10	\$ 40 00				\$ 3 00	\$1,900 06
June 2.....	476 07	644 20	30 00		21 50	6 00	1,040 05	\$187 11	16 25	35 71	\$ 4 00	\$273 21	\$100 00			75 00					2,069 10
July 27.....	1,184 88	1,211 25	31 25		12 92	9 00	1,029 50	46 05	61 88	394 99	2 00	953 09				75 00	\$35 63				5,047 44
Aug. 4.....	287 29	258 75	33 75		55	10 57			5 10	349 35	2 00	26 50				64 00		\$35 61		42 00	1,155 87
Sept. 1.....	637 12	735 58	32 50		19 75			143 00	66 11	195 19	6 00		100 00	24 62		50 00		10 56			2,029 43
Oct. 6.....	684 28	728 75	32 50		10 65	18 75	11 63		141 91	264 00	153 90						6 00			5 00	2,057 37
Nov. 6.....	639 50	534 45	59 75		14 93	26 94			37 60	65 02	21 45										1,399 64
Dec. 1.....	367 04	351 35	58 50		10 20				23 16		56 20		100 00			2 90			25 00	6 80	911 15
Jan. 5.....	86 49	101 50	60 75		20	86		9 00	35 53	1 25						2 25					404 83
Feb. 2.....	20 54	31 50	49 50		90											2 25					368 19
March 2.....	125 61	108 00	49 00		8 77							45 00	100 00			7 25					629 63
April 1.....	114 74	47 00	52 00	6 00	3 25	43										2 25					225 67
Totals.....	\$5,185 54	\$5,579 26	\$511 00	\$459 50	\$107 42	\$76 70	\$2,407 43	\$385 16	\$416 36	\$1,298 04	\$245 55	\$1,297 80	\$400 00	\$88 62	\$33 00	\$290 00	\$41 63	\$45 57	\$25 00	\$56 80	\$18,950 38

FIRE AND WATER FUND.

1884-5.		Salaries at Water Works.	Extra Labor at Water Works.	Wood at Water Works.	General Supplies at Water Works.	Repairs at Water Works.	Incidentals.	Salary of Water Commissioner.	Pipe Bills, Taps and Meters.	Main Repairs and Supplies.	New Main Pipe and Specials.	Hydrants, Valves Curls, Lead and Oakum.	New Main-Tools, Supplies and Labor.	Care of Hydrants and Gates.	Water Commissioner's Office Supplies.	Salaries Paid Fire Department.	Supplies and Repairs of Fire Department.	Stable Supplies of Fire Department.	Fire Alarm Telegraph Supplies and Repairs.	Vig. Hose Co., No. 3, Salary and Rent.	Experimental Wells.	New Building.	MONTHLY TOTALS.	
May	5.....	\$250 00	\$12 00		\$ 7 94	\$ 48 83	\$ 24 61		\$65 11	\$25 75				\$15 75		\$365 00	\$ 6 72	\$ 14 50		\$ 125 00			\$ 961 21	
June	2.....	250 00	22 88		73 46	169 62	50 79		35 51	27 94				18 02		300 00	6 06	5 00		37 50			1,119 88	
July	1.....	250 00	28 23		38 26	21 05	3 37		23 51	11 13		\$ 14 94		8 75		405 00							767 00	
July	7.....		4 50		38 26	21 05	3 37		23 51	11 13		\$ 14 94		8 75		405 00					\$120 26		761 03	
Aug.	4.....	250 00	20 97	17 00	5 40	63 22	1 17	75 00	29 82	96 94		1 20		7 00	26 65	405 00	113 05	47 55		125 00			1,284 97	
Sept.	1.....	250 00	71 77	292 71	13 70	84 74	30	75 00	54 86	16 75		18 08		9 00	4 25	410 00	566 04	32 75	20 75	25 00		\$ 725 41	2,581 11	
Oct	6.....	250 00	42 00	666 26	15 56	12 40	243 87	75 00	91 80	18 70				9 62	76 91	410 00	39 97	32 65				\$ 2,901 26	4,318 00	
Nov.	6.....	250 00	42 00	879 67	43 49	111 60	1 59	75 00	28 67	61 80		114 88		7 00	15 83	410 00	87 07	123 21	18 29	200 00			1,700 76	4,344 29
Dec.	1.....	250 00		710 18	7 02	87 31	30	75 00	67 49	25 66		3 06	64 75	7 87	13 55	410 00	11 77	31 12				1,115 60	2,880 68	
Jan.	5.....	250 00	42 55	1,013 93	20 82	67 62	3 00	75 00	16 00	28 98	438 00	182 16	2 75	38 07	40 15	410 00	600 49	45 57	35		75 42	334 94	3,685 80	
Feb.	2.....	250 00	16 90	329 63	33 35		50	75 00	2 00	5 75				14 11	10 24	410 00	61 09	21 27	147 50	125 00		174 02	1,676 36	
March	2.....	260 00	87 32		88 17	31 62		75 00	1 50	5 75				11 47	12 69	410 00	18 40	43 63	7 00	75 00		16 88	1,144 43	
April	1.....	260 00	40 20		30 39	5 20	53	75 00		17 65				8 25	13 75	399 26	24 33	69 22			38 88	819 06	1,801 72	
Totals		\$3,020 00	\$431 34	\$3,819 38	\$377 56	\$703 21	\$332 03	\$812 50	\$416 27	\$281 00	\$499 80	\$334 32	\$240 93	\$155 51	\$302 11	\$4,834 26	\$1,627 21	\$546 10	\$457 96	\$712 50	\$234 56	\$7,247 93	\$27,386 48	

GENERAL SEWER FUND.

1884-5.	Inspection.	Sewer Pipe.	Cement.	Brick.	Castings.	Plumbing.	Incidentals.	Cartage.	Laterals.	Connecting Sewers.	Gaskets.	Office Supplies.	Printing.	Assessment, Errors and Retates.	Assessment Expenses.	Flushing.	Repairs.	MONTHLY TOTALS.
May 5.....							\$ 45	\$ 60									\$ 1 30	\$ 11 55
June 2.....								32 25										9 20
July 2.....								70										32 25
July 7.....	\$ 2 13	\$ 173 87					\$ 86										10 35	774 01
Aug. 4.....	58 88	173 22	\$ 17 30	\$ 19 50	\$ 95 50	\$ 7 61	\$ 1 70	19 00	\$ 527 83	\$ 142 65	\$ 6 69	\$ 5 25	\$ 3 75				10 35	1,080 23
Sept. 1.....	71 50		54 65	42 80	107 87	7 78	13 99	34 55	945 28	189 58	4 00						9 20	1,481 20
Oct. 6.....	64 44	354 96	71 00	43 00		15 93	4 70	35 07	1,042 59	345 72	4 40	13 00	32 97				16 85	2,057 63
Nov. 6.....	43 13	197 60	29 40	7 85	135 96			24 55	864 89	168 35	2 00	29 14	17 09					1,551 45
Dec. 1.....	12 51	168 12	25 50	31 25				19 35	1,104 50	162 77	4 80	4 12	20 19	34 63			14 83	1,632 95
Jan. 5.....	5 31	1 20	3 30			114 60	44 52	2 81	3 40	30 00			13 50		\$30 00		12 00	263 51
Feb. 2.....					7 50			1 10		9 25						9 20		27 05
March 2.....							3 35	3 00								11 10		17 45
April 1.....	14 38				125 12		31 44					9 52		175 17	15 00	12 75		383 38
Totals.....	\$272 28	\$1,648 97	\$201 15	\$138 27	\$586 55	\$121 79	\$63 81	\$173 57	\$4,485 09	\$1,048 32	\$21 89	\$61 03	\$87 41	\$209 20	\$45 00	\$137 13	\$20 40	\$9,321 86

BALANCE TO THE CREDIT OF THE SEVERAL FUNDS:

Street and Bridge Fund.....	\$ 1,789.43
Fire and Water Fund.....	2,676.24
General Sewer Fund.....	8,072.65
Riverside Cemetery Fund.....	832.38
Dog Tax Fund.....	186.00
	<u>13,556.70</u>
Overdraft General Fund.....	713.75
Balance in the Treasury.....	<u>\$12,842.95</u>

The following statement shows the amount collected in my office, and the sources from which received:

Licenses, Vehicle.....	\$446.38	
“ Miscellaneous.....	604.26	\$1,050.64
Sewer Connections, &c.....		<u>1,559.21</u>
City Scale Receipts.....		343.21
Sundries, Street and Bridge Fund.....		396.60
Township Funds.....		304.04
Sundries General Fund.....		63.00
Sundries, Fire and Water Fund.....		62.47
Sale of Lots, Riverside Cemetery.....		478.50
		<u>\$4,257.67</u>

Although the amount received for licenses is largely in excess of that paid in former years, it would have been considerably larger if the ordinances fixing the license rates to be paid had been enacted earlier in the year.

If I might be allowed a suggestion in this connection, it would be that the license to be charged to a non-resident for peddling within the city limits should be reduced from \$3.00 to \$1.00, or that the amount to be charged be left discretionary with the clerk within certain limits, for while the \$3.00 rate keeps out some objectionable characters, it also denies to many an honest man the opportunity of plying an honest trade in the city.

In accordance with the directions of the city charter, the various ordinances and rules which have been adopted by the Council have been transcribed into the “Book of Ordinances.”

I submit herewith a number of tables which show, in detail, the expenditures of the city for each month of the year, classified according to the various objects for which the money was appropriated, and the funds upon which the orders issued in payment of the same were drawn.

I feel it to be a pleasure to speak at this time of the excellent condition in which the books and files of the office were found at the beginning of the year, a condition not a little creditable to the last clerk of the village, Mr. Fred Cellem.

It only remains for me to add an expression of my appreciation of the kindness and courtesy with which I have been treated by all the members of the Council, and to thank them for the confidence which they have shown in me as their clerk. Respectfully submitted.

CHAUNCEY STRONG,
City Clerk.

Report of the City Treasurer.

To the Honorable, the Mayor and City Council:

GENTLEMEN—Your City Treasurer would respectfully submit the following report for the fiscal year ending April 13th, 1885:

RECEIPTS.

Amount rec'd from F. C. Dudgeon, Village Treasurer, April 26, 1884.....\$10,026 35

GENERAL FUND.

Amount rec'd from George Gilchrist, County Treasurer, liquor tax.....	13,107 60
“ “ “ Fred Cellem, Water Commissioner, water rates.....	9,495 07
“ “ “ Chauncey Strong, City Clerk, licenses.....	1,050 64
“ “ “ “ “ “ sundries.....	63 00
“ “ “ Delinquent tax.....	159 80
“ “ “ John Pyle, Township Treasurer, division of township funds.....	304 04
“ “ “ Lawrence N. Burke, City Recorder, fines.....	11 00
“ “ “ City tax roll.....	54,648 82

STREET AND BRIDGE FUND.

Amount rec'd from Chauncey Strong, City Clerk, city scales.....	343 21
“ “ “ “ “ “ sundries.....	436 60

FIRE AND WATER FUND.

Amount rec'd from Fred Cellem, Water Commissioner, taps.....	187 00
“ “ “ “ “ “ sundries.....	24 34
“ “ “ “ Chauncey Strong, City Clerk, sundries, water works.....	62 47

SEWER FUND.

Amount rec'd from Chauncey Strong, City Clerk, connections.....	1,559 21
“ “ “ collection sewer roll “A,”.....	5,094 01
“ “ “ “ “ “ “B,”.....	1,769 70

RIVERSIDE CEMETERY FUND.

Amount rec'd from Township Treasurer.....	353 88
“ “ “ Chauncey Strong, City Clerk, sale of lots.....	478 50

DOG TAX FUND.

Amount rec'd from collection of dog tax.....	186 00
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Total receipts.....	\$99,321 24
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DISBURSEMENTS.

By paid orders on general fund.....	\$28,469 65
“ “ street and bridge fund.....	18,918 76
“ “ fire and water fund.....	27,365 88
“ “ sewer fund.....	9,321 86
“ village orders.....	696 94
“ salary City Recorder.....	1,437 50

Total.....	\$86,210 59
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Balance on hand April 13, 1885.....	\$13,110, 65
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LEDGER BALANCES.

Street and Bridge Fund.....	\$ 1,821 05
Fire and Water Fund.....	2,697 59
General Sewer Fund.....	8,072 65
Riverside Cemetery.....	832 38
Dog Tax Fund.....	186 00
	<u>\$13,609 67</u>
Less General Fund overdrawn.....	499 02
Leaving balance as above.....	<u>\$13,110 65</u>
The returns as made by the City Treasurer of delinquent taxes and charged back to the city by the County Treasurer, are as follows:	
City tax on real estate delinquent.....	\$281 00
School tax " " ".....	168 00
One mill tax " " ".....	28 21
Total.....	<u>\$ 477 81</u>
All of which will be collected from time to time by the County Treasurer as paid in to him or through the sale of property, and will be returned to the city.	
Personal tax uncollectable.....	300 40
" " errors in assessment.....	1,094 29
Real estate twice and thrice assessed.....	449 99
Total.....	<u>\$2,322 49</u>

Which amount, by order of City Council, has been charged to the general fund. Explanations have been made to the Committee on Finance with reference to matters pertaining to taxes, and I leave the subject in their hands for report. All of which is respectfully submitted.

A. SYDNEY HAYS,
City Treasurer.

Schedule of Orders Paid.

GENERAL FUND.

NAME.	Order No.	Amount.	NAME.	Order No.	Amount.
Geo. S. Pierson.....	1	\$ 110 00	Ihling Bros.....	59	97 75
A. G. Fuller.....	2	53 75	H. H. Everard & Co.....	60	69 00
A. H. Merrell.....	3	6 38	“ “ “.....	61	10 25
M. C. Taft.....	4	1 50	Kalamazoo Gas Light Co.....	62	244 26
Geo. Taft.....	5	75	J. B. Trowbridge.....	63	14 68
Albert Freeman.....	6	1 12	H. Heckema.....	64	45 00
Samuel Brown.....	7	2 00	Jacob Soutsema.....	65	45 00
Kalamazoo Paper Co.....	8	27 79	Joe Fry.....	66	95 00
George C. Winslow.....	9	12 95	T. S. Cobb & Son.....	67	66 95
W. P. Burdick.....	10	6 00	Bush & Paterson.....	68	8 00
J. A. Campbell.....	11	1 05	Thomas Dorgan.....	69	6 05
Thomas Dorgan.....	12	85	Carr & Engleman.....	70	9 73
L. N. Burke.....	13	8 33	J. DeKam.....	71	24 07
Kalamazoo Gas Light Co.....	14	235 44	S. H. Wattles.....	72	81 66
Buckhout Bros.....	15	16 56	John Lamb.....	73	60 00
Thomas Dorgan.....	16	2 50	H. H. Boekeloo.....	74	60 00
J. DeKam.....	17	75	J. H. Gordon.....	75	50 00
H. H. Boekeloo.....	18	30 00	John Scrivener.....	76	50 00
John Lamb.....	19	30 00	Thomas Warren.....	77	33 33
John H. Gordon.....	20	25 00	Eugene Dustin.....	78	25 00
John H. Scrivener.....	21	25 00	N. S. Bowen.....	79	3 00
A. J. Baird.....	22	25 00	B. C. Johnson.....	80	3 00
Stephen H. Wattles.....	23	41 66	H. Nash.....	81	3 00
Tel. & Tel. Con. Co.....	24	10 25	D. N. Brownell.....	82	3 00
J. E. Doyle.....	25	1 00	Edward Flynn.....	83	3 00
George Fuller & Sons.....	26	1 00	J. H. Sweet.....	84	3 00
George McDonald.....	27	53	Levi Harris.....	85	3 00
William Thompson.....	28	50	William Doru.....	86	3 00
John Sanford.....	29	15 00	D. H. Taylor.....	87	3 00
Clark & Warren.....	30	5 00	Theodore Merrill.....	88	3 00
H. H. Everard & Co.....	31	60 00	J. McKee, Sr.....	89	53 60
Ihling Bros.....	32	17 20	S. H. Wattles.....	90	4 00
Kalamazoo Publishing Co.....	33	23 39	T. S. Cobb & Son.....	91	1 80
“ “ “.....	34	4 00	H. H. Everard & Co.....	92	6 00
Fred Cellem.....	35	1 65	Charles Winner.....	93	50
George W. Young.....	36	1 55	John Sanford.....	94	10 50
Ihling Bros.....	37	48 37	A. H. Freeman.....	95	19 44
Hugh McHugh.....	38	5 60	H. Vandepolder.....	96	1 50
Chauncy Strong.....	39	125 00	J. Hampden.....	97	15 00
Fred Cellem.....	40	62 49	William Dorn.....	98	7 50
“ “ “.....	41	10 80	Winslow & Crooks.....	99	12 50
Chauncy Strong.....	42	15 96	Barnard Flynn.....	100	25 00
E. M. Irish.....	43	75 00	Kalamazoo Publishing Co.....	101	140 38
George S. Pierson.....	44	120 00	Levi Hicks.....	102	112 00
William A. Merritt.....	45	3 25	F. S. Stone.....	103	100 00
William Saunders.....	46	1 50	Delos Phillips.....	104	112 00
George Taft.....	47	50	J. B. Cobb.....	105	112 00
George S. Pierson.....	48	6 35	E. Burdick.....	106	86 00
Bush & Paterson.....	49	11 70	Delos Phillips.....	107	40 00
Charles Winner.....	50	1 00	Chauncy Strong.....	108	75 00
S. Brown.....	51	2 00	E. M. Irish.....	109	50 00
George Clark.....	52	3 00	George S. Pierson.....	110	125 00
E. A. Carder & Son.....	53	6 00	A. J. Fuller.....	111	130 00
Bush & Paterson.....	54	20 25	W. E. Ely.....	112	28 75
J. A. Campbell.....	55	5 88	B. Stegeuk.....	113	13 13
J. DeVisser.....	56	61	S. H. Wattles.....	114	81 66
Clark & Warren.....	57	5 00	John Lamb.....	115	60 00
George Raper.....	58	2 25	H. H. Boekeloo.....	116	60 00

GENERAL FUND—CONTINUED.

NAME.	Amount.	Order No.	NAME.	Order No.	Amount.
John H. Gordon.....	117	\$ 50 00	B. Flynn	193	\$ 25 00
J. H. Scrivener	118	50 00	L. N. Burke.....	194	50 00
Thomas Warren	119	50 00	John Lamb.....	195	60 00
Eugene Dustin.....	120	50 00	H. H. Boekeloo.....	196	60 00
G. H. Bradt.....	121	6 00	J. H. Gordon	197	50 00
Clarence Clark.....	122	1 50	J. H. Scrivener.....	198	50 00
Walter Parish.....	123	1 50	Thomas Warren	199	50 00
Edward Flynn.....	124	6 00	Eugene Dustin	200	50 00
Clarence E. Carnes.....	125	7 50	Hotchkiss & Co.....	201	1 15
Samuel Brown.....	126	6 00	G. W. Young	202	11 80
Nelson F. Bowen	127	6 00	George Fuller	203	6 50
Henry O'Dell.....	128	6 00	Eugene Dustin	204	20 00
Archie Warren	129	1 50	S. H. Wattles.....	205	19 10
Charles Rice.....	130	7 50	Thling Bros.....	206	8 45
H. McAllister.....	131	2 25	H. H. Everard & Co.....	207	53 30
H. F. Severens.....	132	10 00	Fred Cellem.....	208	3 25
Charles R. Sellers.....	133	20 00	C. N. Pease & Son.....	209	3 50
Samuel Brown.....	134	2 00	W. B. Clark's Son.....	210	9 65
Joe Fry.....	135	95 00	Bush & Paterson.....	211	3 20
H. B. Hemenway	136	31 25	Clark & Warren	212	5 00
B. Flynn.....	137	25 00	George Raper.....	213	4 87
Clark & Warren	138	5 00	A. H. Freeman	214	29 17
A. H. Freeman	139	29 16	"	215	7 50
"	140	75	George C. Winslow.....	216	8 75
E. W. White.....	141	2 25	J. DeVisser & Co.....	217	50
Theodore Merrill.....	142	3 00	J. DeKam.....	218	23 25
John T. Welsh.....	143	3 00	Thomas Dorgan	219	1 75
William Dorn.....	144	3 00	Lawrence & Chapin.....	220	8 00
H. McAllister.....	145	75	William Ritchie	221	15 05
W. C. Johnson.....	146	2 25	Dennis Coogan	222	48 13
Charles Smith.....	147	2 25	"	223	130 50
A. E. Cairns.....	148	2 25	Fred. Jannasch.....	224	19 50
G. H. Bradt.....	149	2 25	James Britton	225	25 85
N. F. Bowen.....	150	2 25	J. H. Hampton	226	34 50
E. Flynn.....	151	2 25	Allen Russell.....	227	7 50
E. L. Walton	152	2 25	J. C. Hoffman.....	228	7 50
Edward Divers	153	2 25	H. VanDyke	229	9 75
B. Flynn.....	154	1 50	Kalamazoo Gas Light Co.....	230	256 32
Henry O'Dell.....	155	2 25	J. B. Trowbridge.....	231	6 44
A. H. Freeman.....	156	1 50	Joe Fry	232	95 00
F. Henderson.....	157	155 05	Bush & Paterson.....	233	1 60
H. S. Parker	158	5 25	Thomas Dorgan.....	234	19 95
F. W. Underwood.....	159	2 10	Carr & Engleman.....	235	9 33
J. DeVisser & Co.....	160	25	J. DeKam.....	236	3 00
S. H. Wattles.....	161	4 00	J. VanMale.....	237	1 00
Tel. and Tel. Con. Co.....	162	2 45	R. Smith & Son.....	238	40
"	163	37 50	Bevans & Barkebus.....	239	4 01
H. H. Everard & Co.....	164	42 00	Samuel Brown.....	240	2 00
C. H. Carlyle.....	165	4 08	Kalamazoo Publishing Co.....	241	49 32
Thling Bros.....	166	50 35	"	242	472 62
Thomas Dorgan.....	167	26 64	Chauncey Strong	243	75 00
R. W. Southworth.....	168	4 67	S. H. Wattles	244	88 35
Bush & Paterson.....	169	3 15	E. M. Irish.....	245	50 00
George Raper.....	170	1 87	H. B. Hemenway	246	25 00
Bush & Paterson.....	171	7 80	George S. Pierson.....	247	62 50
Thling Bros.....	172	6 65	A. G. Fuller	248	65 00
H. H. Everard & Co.....	173	47 00	B. Flynn.....	249	25 00
William Ritchie	174	28 63	C. R. Sellers.....	250	20 00
J. DeKam.....	175	8 67	Chauncey Strong.....	251	15 75
James H. Britton	176	16 12	Thling Bros.....	252	11 18
E. W. White.....	177	1 50	H. H. Everard & Co.....	253	23 75
A. H. Freeman.....	178	75	George W. Young.....	254	4 57
Kalamazoo Gas Light Co.....	179	261 00	E. A. Carder & Son.....	255	9 00
J. B. Trowbridge.....	180	19 50	George Raper.....	256	1 87
Carr & Engleman.....	181	23 63	Clark & Rectenwald.....	257	5 00
J. DeKam.....	182	10 50	John Lamb.....	258	60 00
Thomas Dorgan.....	183	84 88	H. H. Boekeloo.....	259	60 00
Kalamazoo Publishing Co.....	184	108 16	J. H. Gordon	260	50 00
A. J. Shakespeare.....	185	72 13	J. J. Scrivener.....	261	50 00
Winslow & Crooks.....	186	54 07	Thomas Warren	262	50 00
Edward Hawley	187	500 00	Eugene Dustin	263	50 00
Chauncey Strong.....	188	75 00	E. S. Walton	264	4 00
S. H. Wattles.....	189	81 66	John T. Welsh.....	265	4 00
E. M. Irish.....	190	50 00	Levi Harris.....	266	4 00
George S. Pierson.....	191	132 50	E. A. Flynn.....	267	4 00
A. J. Fuller	192	60 20	S. H. Wattles.....	268	4 85

GENERAL FUND—CONTINUED.

NAME.	Order No.	Amount.	NAME.	Order No.	Amount.
Tel. & Tel. Con. Co.....	269	\$ 3 91	H. F. Soverens.....	345	\$ 50 00
Kalamazoo Gas Co.....	270	197 46	Kalamazoo Publishing Co.....	346	26 09
J. B. Trowbridge.....	271	13 45	A. J. Shakespeare.....	347	15 60
Joe Fry.....	272	95 00	Chauncey Strong.....	348	75 00
Crane Bros. Man'g Co.....	273	13 25	S. H. Wattles.....	349	83 33
Michigan Central Railroad Co.....	274	1 58	E. M. Irish.....	350	50 00
Bush & Paterson.....	275	1 60	George S. Pierson.....	351	80 00
J. DeKam.....	276	19 27	A. J. Fuller.....	352	65 00
Carr & Engleman.....	277	4 23	H. B. Hemenway.....	353	25 00
A. H. Freeman.....	278	29 17	B. Flynn.....	354	25 00
John Saunders.....	279	2 00	John Lamb.....	355	60 00
Dennis Coogan.....	280	78 00	John H. Gordon.....	356	50 00
Alex. Cameron.....	281	1 50	J. H. Scrivener.....	357	50 00
Parsons & Wood.....	282	2 34	Eugene Dustin.....	358	50 00
Kalamazoo Publishing Co.....	283	40 69	John Ward.....	359	1 00
Chauncey Strong.....	284	75 00	John T. Welsh.....	360	2 00
S. H. Wattles.....	285	83 33	G. Meredink.....	361	2 00
E. M. Irish.....	286	50 00	J. A. Scrivener.....	362	2 00
George S. Pierson.....	287	55 00	Eugene Dustin.....	363	2 00
A. G. Fuller.....	288	65 00	J. H. Gordon.....	364	2 00
Barnard Flynn.....	289	25 00	James H. Sweet.....	365	2 00
Chauncey Strong.....	290	11 85	Theodore Merrell.....	366	2 00
Ihling Bros.....	291	21 25	W. A. Knowles.....	367	2 00
C. N. Pease & Son.....	292	10 75	F. Henderson.....	368	1 03
George W. Young.....	293	40	Thomas Dorgan.....	369	60
Clark & Rectenwald.....	294	5 00	L. N. Burke.....	370	50 00
B. Desenberg & Co.....	295	2 35	H. H. Everard & Co.....	371	14 00
T. S. Cobb & Son.....	296	3 35	Clark & Rectenwald.....	372	5 00
George W. Young.....	297	1 60	George Raper.....	373	3 95
John Lamb.....	298	60 00	Kalamazoo Gas Light Co.....	374	243 36
H. H. Boekeloo.....	299	60 00	Joe Fry.....	375	95 00
John H. Gordon.....	300	50 00	J. B. Trowbridge.....	376	22 19
J. A. Scrivener.....	301	50 00	Thomas Dorgan.....	377	1 75
Thomas Warren.....	302	38 33	A. H. Freeman.....	378	29 17
Eugene Dustin.....	303	50 00	E. White.....	379	4 50
Theodore Merrill.....	304	10 00	R. W. Ostrander.....	380	48 05
E. Walton.....	305	12 00	Dennis Coogan.....	381	7 62
John T. Welsh.....	306	8 00	H. Boorsma.....	382	3 75
J. H. Sweet.....	307	10 00	James Erwin.....	383	3 00
Charles Rice.....	308	10 00	A. Aldrich.....	384	16 50
J. Soosema.....	309	6 00	J. P. Krum.....	385	18 37
George Meredink.....	310	2 00	Thomas Hickery.....	386	50
William Dorn.....	311	11 00	A. H. Freeman.....	387	1 50
Nelson F. Bowen.....	312	10 00	Charles A. Raymond.....	388	10 87
Charles Smith.....	313	6 00	George Jones.....	389	10 50
Wap Soosema.....	314	10 00	Ben. Shotts.....	390	1 50
Wig Soosema.....	315	8 00	Lawrence & Chapin.....	391	2 00
John C. Waal.....	316	10 00	John Saunders.....	392	2 00
E. Karstine.....	317	8 00	Kalamazoo Publishing Co.....	393	103 11
Stephen H. Wattles.....	318	6 60	H. H. Everard & Co.....	394	60
Tel. & Tel. Con. Co.....	319	45 00	C. N. Pease & Son.....	395	1 50
Kalamazoo Gas Light Co.....	320	246 60	O. F. Coleman.....	396	16 00
J. B. Trowbridge.....	321	22 86	E. M. Breese.....	397	10 00
Joe Fry.....	322	95 00	Levi Hicks.....	398	6 00
Crane Bros. Man'g Co.....	323	22 70	H. J. McHugh.....	399	6 00
Michigan Central Railroad Co.....	324	35	F. S. Stone.....	400	6 00
T. S. Cobb & Son.....	325	41 10	T. A. Palmer.....	401	6 00
Bush & Paterson.....	326	9 85	G. C. Winslow.....	402	6 00
Carr & Engleman.....	327	24 01	H. W. Page.....	403	6 00
J. DeKam.....	328	6 50	A. L. Lakey.....	404	6 00
Thomas Dorgan.....	329	7 45	Otto Ihling.....	405	6 00
A. H. Freeman.....	330	29 17	George Fuller.....	406	6 00
Bush & Paterson.....	331	2 25	J. F. Schlick.....	407	6 00
Fred Celem.....	332	5 25	George Fuller & Son.....	408	1 50
Winslow & Crooks.....	333	20 25	Levi Hicks.....	409	6 00
Dennis Coogan.....	334	25 63	H. J. McHugh.....	410	6 00
C. N. Pease & Son.....	335	3 50	Fred. Hotop.....	411	6 00
George W. Young.....	336	1 70	F. S. Stone.....	412	6 00
C. H. Dickinson.....	337	1 15	T. A. Palmer.....	413	6 00
A. G. Fuller.....	338	2 15	C. H. Bird.....	414	6 00
John Saunders.....	339	2 00	Delos Phillips.....	415	6 00
W. H. Snow.....	340	24 50	G. C. Winslow.....	416	6 00
H. McAllister.....	341	20 00	H. W. Page.....	417	6 00
H. McAllister and E. Hawley.....	342	20 00	J. B. Cobb.....	418	6 00
Dan. Hastings.....	343	10 00	A. L. Lakey.....	419	6 00
F. Woodhams.....	344	5 00	Otto Ihling.....	420	6 00

GENERAL FUND—CONTINUED.

NAME.	Order No.	Amount.	NAME.	Order No.	Amount.
E. Burdick.....	421	\$ 6 00	Sunday Herald.....	497	\$ 11 75
George Fuller.....	422	6 00	John Sanford.....	498	1 50
J. F. Schlick.....	423	6 00	Chauncy Strong	499	75 00
Hugh Beggs.....	424	6 00	S. H. Wattles.....	500	83 33
J. W. Hopkins.....	425	6 00	E. M. Irish.....	501	50 00
R. F. Hill.....	426	6 00	George S. Pierson.....	502	116 25
J. M. Davis.....	427	6 00	A. G. Fuller.....	503	65 00
Frank Hopkins.....	428	6 00	H. B. Hemenway	504	25 00
F. Little.....	429	6 00	Chauncy Strong	505	23 30
W. W. Peck.....	430	6 00	Clark & Rectenwald.....	506	5 00
Wm. Shakespeare.....	431	6 00	George Raper.....	507	4 75
W. P. Burdick.....	432	6 00	Cobb & Hunter.....	508	10 00
H. A. O'Dell.....	433	6 00	Jones & Morgan.....	509	13 19
Ihling Bros.....	434	10 70	S. W. Faxon.....	510	16 00
W. L. Welsh.....	435	14 50	Thomas Dorgan.....	511	2 00
J. A. Campbell.....	436	7 30	Prindle & Larned.....	512	90 00
H. Sikkings.....	437	75 00	Bird & Clarage.....	513	2 50
Bush & Paterson.....	438	2 50	J. T. Welsh.....	514	75 00
B. C. Johnson.....	439	2 00	John Lamb.....	515	60 00
Samuel Brown.....	440	2 00	John H. Gordon	516	50 00
J. T. Welsh.....	441	2 00	John A. Scrivener	517	50 00
William Dorn.....	442	2 09	Eugene Dustin.....	518	50 00
C. E. Cairns.....	443	2 00	E. S. Walton.....	519	50 00
G. H. Bradt.....	444	2 00	Boardman & Reese.....	520	1 50
E. W. Flynn.....	445	2 00	George Fuller & Son	521	2 25
Chauncey Strong.....	446	75 00	Charles H. Caryl.....	522	2 85
E. M. Irish.....	447	50 00	School District No. 1.....	523	56 60
S. H. Wattles.....	448	83 33	J. Devisser & Co.....	524	20 00
G. S. Pierson.....	449	75 00	George W. Young.....	525	1 60
A. G. Fuller.....	450	65 00	Ihling Bros.....	526	10 75
H. B. Hemenway	451	150 00	H. H. Everard & Co.....	527	10 50
Ihling Bros.....	452	4 05	George W. Young	528	3 75
B. Flynn.....	453	25 00	John Pyle.....	529	29 29
Clark & Rectenwald.....	454	5 00	R. Smith & Son.....	530	1 50
George Raper.....	455	3 00	Kalamazoo Gas Light Co.....	531	154 08
John McSweeney.....	456	35 63	J. B. Trowbridge.....	532	15 92
Parsons & Wood.....	457	2 38	Joe Fry.....	533	190 00
C. H. Dunbar.....	458	16 00	Cobb & Hunter.....	534	1 35
E. W. DeYoe.....	459	16 00	Carr & Engleman.....	535	1 50
John Lamb.....	460	60 00	Thomas Dorgan.....	536	10 40
J. H. Gordon.....	461	50 00	J. DeKam.....	537	16 72
J. A. Scrivener.....	462	50 00	J. VanMale.....	538	1 85
Eugene Dustin.....	463	50 00	Bush & Paterson.....	539	35 00
E. L. Walton.....	464	55 00	D. McDonald.....	540	1 38
S. H. Wattles.....	465	2 00	J. O. Seeley.....	541	6 00
Kalamazoo Gas Light Co.....	466	256 50	Barnard Flynn.....	542	25 00
J. B. Trowbridge.....	467	13 77	John Saunders.....	543	2 00
J. DeKam.....	468	97 72	Henry Furst.....	544	5 00
A. H. Freeman.....	469	23 67	L. L. Clark & Co.....	545	4 50
R. Van Brugen.....	470	1 50	Tel. & Tel. Con. Co.....	546	45 00
Dennis Coogan.....	471	7 25	W. F. Montague.....	547	5 00
Prindle & Larned.....	472	27 00	George Fuller & Sons.....	548	1 25
J. R. Krum.....	473	6 75	A. J. Shakespeare.....	549	70 05
A. Aldrich.....	474	4 87	Levi Hicks.....	550	123 00
H. Boesema.....	475	3 37	F. S. Stone.....	551	127 00
James Erwin.....	476	37 50	Delos Phillips.....	552	165 00
George Jones.....	477	23 25	J. B. Cobb.....	553	127 00
Ben. Shotts.....	478	11 25	E. Burdick.....	554	87 00
George Hatfield.....	479	75 00	General Sewer Fund	555	276 33
E. Betts.....	480	1 50	City National Bank.....	556	5,500 00
L. Ham.....	481	1 50	H. M. Hinsdale, Clerk Circuit Court.....	557	1,002 51
L. Moelhoeck.....	482	35 00	Chairman Finance Committee	558	140 97
John Saunders.....	483	2 00	“ “ “.....	559	205 62
H. McHugh.....	484	3 25	“ “ “.....	560	85 45
C. H. Carter.....	485	4 05	Chauncy Strong.....	561	75 00
Hugh Beggs.....	486	5 00	S. H. Wattles.....	562	83 33
Thomas Crux.....	487	5 00	E. M. Irish.....	563	50 00
M. J. Oggle.....	488	15 00	H. B. Hemenway.....	564	12 50
E. O. Humphrey.....	489	5 00	Geo. S. Pierson.....	565	92 50
Kalamazoo Spring & Axle Works.....	490	5 00	Ihling Bros.....	566	10 70
John Richmond.....	491	52 00	George McDonald.....	567	1 50
D. G. Russell.....	492	5 00	Jay Everett.....	568	23 10
John Glass.....	493	6 75	Ihling Bros.....	569	33 45
H. F. Severens.....	494	78 90	Thomas Dorgan.....	570	5 59
E. M. Irish.....	495	47 40	John Lamb.....	571	60 00
Kalamazoo Publishing Co.....	496	14 04	J. H. Gordon.....	572	50 00

GENERAL FUND—CONTINUED.

NAME.	Order No.	Amount.	NAME.	Order No.	Amount.
J. A. Scrivener	573	\$ 50 00	George W. Young.....	641	\$ 75
Eugene Dustin	574	50 00	James Davis.....	642	10 00
E. S. Walton.....	575	50 00	Elisha White.....	643	10 00
H. H. Boekeloo.....	576	125 00	H. B. Hemenway.....	644	1 00
Dr H. B. Osborn.....	577	25 00	F. Coleman & Son.....	645	2 23
F. E. Wells.....	578	140 00	Kalamazoo Publishing Co.....	646	70 54
George McDonald.....	579	62	Rebate Tax—C. Malin.....	647	8 64
S. H. Wattles.....	580	2 50	“ “ —J. McHugh.....	648	8 63
George Raper.....	581	2 25	“ “ —Mrs. Thorpe.....	649	6 48
B. Flynn.....	582	25 00	“ “ —Mrs. McDonald.....	650	4 31
Jones & Morgan.....	583	65 49	“ “ —Mrs. Fisher.....	651	9 81
E. A. Carder & Son.....	584	2 00	“ “ —Mrs. King.....	652	21 80
Clark & Reckenwald.....	585	5 00	“ “ —T. Burnett.....	653	5 39
Ed. Morrissey.....	586	2 25	“ “ —Mrs. Rickman.....	654	10 80
Wallace Gifford.....	587	75	“ “ —Mrs. Day.....	655	2 17
J. T. Welsh.....	588	6 25	“ “ —Jane Shields.....	656	4 32
J. B. Trowbridge.....	589	60	“ “ —P. Adameskey.....	657	5 39
Prindle & Larned.....	590	13 04	Chauncey Strong.....	658	75 00
Wm. Dorn.....	591	6 00	S. H. Wattles.....	659	83 33
Kalamazoo Gas Light Co.....	592	138 24	E. M. Irish.....	660	50 00
J. B. Trowbridge.....	593	13 06	H. B. Hemenway.....	661	12 50
Joseph Fry.....	594	95 00	George Pierson.....	662	100 75
J. DeKam.....	595	11 37	John Lamb.....	663	60 00
Thomas Dorgan.....	596	1 25	J. H. Gordon.....	664	50 00
Bush & Paterson.....	597	3 30	J. A. Scrivener.....	665	50 00
L. N. Burke.....	598	50 00	Eugene Dustin.....	666	50 00
C. H. Caryl.....	599	1 00	E. S. Walton.....	667	50 00
H. H. Everard & Co.....	600	4 50	Chauncey Strong.....	668	10 43
Pease & Son.....	601	2 50	Ihling Bros.....	669	9 75
John Saunders.....	602	2 00	“ “.....	670	5 90
John Galligan.....	603	52 74	B. Flynn.....	671	25 00
R. C. Kedzie.....	604	40 00	Joseph Fry.....	673	95 00
Kalamazoo Publishing Co.....	605	46 25	J. VanMale.....	674	2 25
Chauncey Strong.....	606	75 00	J. DeKam.....	675	50
S. H. Wattles.....	607	83 33	Thomas Dorgan.....	676	2 25
E. M. Irish.....	608	50 00	Cobb & Hunter.....	677	7 30
H. B. Hemenway.....	609	12 50	Thomas Dorgan.....	678	109 66
George S. Pierson.....	610	1 20	Prindle & Larned.....	679	25 25
John Lamb.....	611	60 00	J. A. Campbell.....	680	40 48
J. H. Gordon.....	612	50 00	Thomas Dorgan.....	681	5 54
J. A. Scrivener.....	613	50 00	J. Duncan & Son.....	682	17 78
Eugene Dustin.....	614	50 00	J. DeKam.....	683	75
E. L. Walton.....	615	50 00	J. C. Holmes.....	684	116 80
F. Henderson.....	616	3 13	Union School Furniture Co.....	685	1 00
Ihling Bros.....	617	5 80	Ben. A. Bush.....	686	43 10
Kalamazoo Gas Light Co.....	618	34 92	George Raper.....	687	18 00
Joseph Fry.....	619	95 00	Israel & Co.....	688	194 75
Bush & Paterson.....	620	1 75	E. A. Carder & Son.....	689	155 25
Carr & Engelman.....	621	2 35	A. R. Costa.....	690	19 50
J. VanMale.....	622	10 00	John Saunders.....	691	2 00
J. DeKam.....	623	31 50	C. H. Dickinson.....	692	3 00
John Saunders.....	624	2 00	J. DeVisser & Co.....	693	80
B. Flynn.....	625	25 00	A. H. Freeman.....	696	2 25
C. B. Clark.....	626	5 00	George Raper.....	697	7 00
George Raper.....	627	6 37	L. N. Burke.....	698	33 34
Jones & Morgan.....	628	83 80	Charles H. Caryl.....	699	4 95
Bush & Paterson.....	629	25	J. S. Fitzgerald.....	700	12 00
P. Van Derpolder.....	630	2 00	H. H. Everard & Co.....	701	76 00
J. T. Welsh.....	631	6 00	B. A. Bush.....	702	1 50
J. A. Campbell.....	632	225 98	Bush & Paterson.....	703	75
R. W. Southworth.....	633	25 80	Levi Hicks.....	704	8 00
E. Betts.....	634	30 00	F. S. Stone.....	705	8 00
D. Coogan.....	635	6 00	Delos Phillips.....	706	8 00
H. Fuller.....	636	3 00	E. Burdick.....	708	8 00
J. McAllister.....	637	1 50	Kalamazoo Publishing Co.....	710	51 52
L. Simon.....	638	75			
George Fuller.....	639	7 50	Total.....		\$28,469 65
Thomas Dorgan.....	640	15 81			

STREET AND BRIDGE FUND.

NAME.	Order No.	Amount.	NAME.	Order No.	Amount.
Martin Van Antwerp.....	1	\$ 10 50	J. Reichel.....	77	\$ 37
Daniel Hastings	2	10 50	E. Wilson.....	78	35 25
Leonard Sinon	3	9 38	Thomas Myron	80	9 37
John Laughlin.....	4	9 37	Thomas E. Burnham.....	81	37
Hick Santaga.....	5	9 38	William Fuller.....	82	12 37
Henry Grant.....	6	8 25	A. J. Whipple	83	37
John Mahoney.....	7	9 75	Ed. Mack.....	84	13 85
John Barantz.....	8	8 25	W. Eldred.....	85	37
John Welch.....	9	7 50	Pat Devine.....	86	28 50
Peter DeBeck.....	10	5 25	Ira Fuller.....	87	12 37
Manfred Muir.....	11	5 25	Mike McGuire.....	88	9 75
B. Koolman	12	4 50	Will Owens.....	89	27 37
George Bilkert.....	13	4 50	L. H. Alexander.....	90	6 75
William VanDeplow.....	14	4 50	Fuller & Son.....	91	70 50
William Williamson.....	15	3 75	E. Connor.....	92	13 87
A. Utena.....	16	3 75	H. McAllister.....	93	6 00
Kern Morrissey.....	17	1 50	Joseph Fry.....	94	58 80
Abraham Fitell.....	18	8 75	William Kelly.....	95	42 00
Daniel Hastings	19	6 47	William Sweet.....	96	8 68
Mike O'Brien.....	20	5 50	Fred Allen.....	97	40 50
L. Sinon	21	19 30	F. Ellsworth.....	98	19 80
F. Harrigan.....	22	18 18	Thomas Owens.....	99	39 30
Klas Santaga	23	18 18	William Gool.....	100	15 00
A. Barnes.....	24	17 43	Chauncey Hope.....	101	6 00
George Bilkert.....	25	16 68	Ben Shott.....	102	39 30
John Laughlin.....	26	20 81	John Jones.....	103	33 00
Mace Muir.....	27	12 18	E. Cummings	104	25 50
A. R. Rickard.....	28	11 43	Hank Fuller	105	23 25
A. J. Rowe.....	29	14 43	J. H. Roe.....	106	22 50
Ed. Dunning	30	15 93	J. Fuller.....	107	40 00
W. E. Plow.....	31	17 43	Dewing & Son.....	108	326 25
George Williamson.....	32	15 93	Bush & Paterson	109	30 35
William Williamson.....	33	15 93	John DeVisser & Co.....	110	7 95
Ira Utena.....	34	11 43	C. Domino.....	111	6 00
Peter DeBeck.....	35	17 43	Jacob Divers.....	112	3 00
Harry Grant.....	36	21 90	George Davis.....	113	13 70
K. Morrissey	37	17 62	J. McSweeney.....	114	2 40
John Mahoney.....	38	17 43	Abraham Fitell.....	115	21 25
John Welch.....	39	21 75	Charles Winner.....	116	25
Noble Graham.....	40	21 90	C. Morrissey.....	117	13 35
Ben. Chapman.....	41	17 43	W. Williams.....	118	12 75
E. W. Christian.....	42	16 50	W. Plough.....	119	17 63
Albert McKinstrey.....	43	3 75	B. Plough.....	120	23 45
Ed. Morrissey.....	44	1 50	William Decker	121	26 63
Peter Moredyke.....	45	3 75	John Welch.....	122	24 75
Judson Roe.....	46	5 25	William Todd.....	123	20 10
James Miller	47	14 25	L. Sinon.....	124	26 85
Will Decker.....	48	8 40	John Mahoney.....	125	28 05
F. Neadfont.....	49	16 50	George Bilkert.....	126	24 30
D. Hill.....	50	2 25	John Laughlin.....	127	28 35
Wm. Todd.....	51	7 50	William Quigley.....	128	1 50
D. Flynn.....	52	2 25	E. W. Christian.....	129	25 80
U. Wheeler.....	53	4 50	Noble Graham.....	130	24 30
John Fisher.....	54	9 00	H. Grant.....	131	21 98
John Daffey.....	55	15 00	John Daffey.....	132	14 10
George Snow.....	56	10 50	H. Gibson.....	133	17 85
Mike Dority	57	1 50	E. Morrissey	134	14 25
John Hannon.....	58	2 25	Klas Santaga	135	12 75
William Kelly.....	59	17 25	T. Neidfelt.....	136	1 50
William Sweet.....	60	18 75	George Shaw.....	137	1 50
Morris Welsh.....	61	21 75	J. Van Ciss.....	138	1 50
T. C. Burnham	62	10 50	Peter DeBeck.....	139	6 00
Pat Devine.....	63	16 50	J. Twortpoole	141	5 45
William Owens.....	64	16 50	A. Barents.....	142	11 25
Joseph Fry.....	65	33 00	John Fisher.....	143	4 50
J. Fuller.....	66	10 50	Mike O'Brien.....	144	17 60
A. Swezey.....	67	6 00	A. M. Rose.....	145	11 27
Thomas O'Meara.....	68	9 00	John Bulgin.....	146	9 00
E. Reidsma.....	69	75	M. Kerkren.....	147	7 50
E. Connor.....	70	6 00	Dan Myron.....	148	3 00
William Whipple.....	71	7 50	M. Van Antwerp	149	3 50
J. Reichel.....	72	4 50	A. M. Rose.....	150	3 00
E. McNamara.....	73	3 00	John C. Hoffman	151	3 00
W. Eldred.....	74	3 00	C. Molhoek.....	152	7 50
L. Molhoek.....	75	3 00	William Sweet.....	153	3 00
E. Wilson.....	76	9 00	L. Molhoek.....	154	21 00

STREET AND BRIDGE FUND—CONTINUED.

NAME.	Order No.	Amount.	NAME.	Order No.	Amount.
Joseph Fry.....	155	\$ 54 00	H. Gibson.....	233	\$ 17 25
Frank Ellsworth.....	156	40 05	L. Simon.....	234	25 50
Thomas Owens.....	157	54 00	J. Van Ciss.....	235	14 25
Ben Shott.....	158	57 00	Klas Santaga.....	236	12 75
George Fuller & Son.....	159	58 20	Michael Courtney.....	237	2 70
E. Wilson.....	160	46 95	John T. Welch.....	238	35 62
Fred Allen.....	161	51 00	J. DeWelf.....	239	10 50
John Jones.....	162	50 70	Ed. Morrissey.....	240	34 12
L. H. Alexander.....	163	49 20	John Mahoney.....	241	37 12
Thos. Omeara.....	164	3 00	Noble Graham.....	242	36 60
Ira Fuller.....	165	3 00	H. Grant.....	243	41 62
Hank Fuller.....	166	19 50	Mace Mure.....	244	1 50
W. Gool.....	167	22 20	W. M. Wood.....	245	9 75
Dan Myron.....	168	19 50	W. E. Hamlin.....	246	9 75
W. Kelly.....	169	44 70	W. M. Quigley.....	247	31 87
P. DeVine.....	170	18 00	W. M. Dorne.....	248	3 75
E. Hawley.....	171	3 00	A. Bearegard.....	249	12 37
F. Peck.....	172	3 00	Ed. Sliss.....	250	5 12
Morris Welch.....	173	22 95	J. Smith.....	251	7 62
J. H. Fuller.....	174	75 00	J. W. Harris.....	252	1 12
A. Cameron.....	175	273 21	R. Dykstra.....	253	10 05
Dewing & Sons.....	176	926 80	Mike O'Brien.....	254	46 00
Den Bleyker Manf'g Co.....	177	113 25	A. M. Rose.....	255	38 85
Bush & Paterson.....	178	43 46	M. VanKriken.....	256	32 52
Tyler & Turner.....	179	8 50	J. Belgin.....	257	24 37
Ohio Building Stone Co.....	180	86 68	Dan Myron.....	258	1 50
L. S. & M. S. R. R. Co.....	181	100 43	Thomas Talliday.....	259	5 25
C. H. Dickinson.....	182	75	L. H. Alexander.....	260	74 25
J. DeVisser & Co.....	183	15 15	Hank Fuller.....	261	42 00
Charles Winner.....	184	25	Thomas Owens.....	262	75 75
Smith & Woodward.....	185	11 60	Ben Shott.....	263	72 00
Abraham Fitell.....	186	30 00	George Fuller.....	264	52 50
J. S. Davison.....	187	4 00	A. Cameron.....	265	57 75
Millard & Glynn.....	188	100 00	John Leavens.....	266	66 00
George Bilkert.....	189	32 25	H. McAllister.....	267	57 00
B. Blow.....	190	38 25	John Roe.....	268	31 50
W. Decker.....	191	33 75	Ed. Hawley.....	269	71 25
Wm. Todd.....	192	27 75	P. DeVine.....	270	65 25
G. Marti.....	193	9 00	Frank Ellsworth.....	271	66 00
A. Bills.....	194	9 75	Joseph Fry.....	272	64 50
James Davis.....	195	15 00	W. Kelly.....	273	75 00
Ed. Goodrich.....	196	33 82	E. Wilson.....	274	60 75
S. Booi.....	197	18 75	Fred Allen.....	275	57 75
James McBride.....	198	5 62	George Hatfield.....	276	3 00
Joseph Keal.....	200	5 62	J. Taft.....	277	3 00
Fred Winner.....	201	6 37	F. Peck.....	278	14 25
B. Harris.....	202	2 25	W. Gould.....	279	40 50
A. Bessmer.....	203	6 37	John Jones.....	280	70 50
S. Bingham.....	204	3 37	L. Tewitt.....	281	21 00
George Shaw.....	205	1 50	Thomas O'Meara.....	282	21 00
Judson Rowe.....	206	1 50	J. Galman.....	283	1 50
William Keal.....	207	2 25	James Wood.....	284	12 00
F. Duttlinger.....	208	7 75	Dan Myron.....	285	35 20
John Gillman.....	209	3 75	James H. Fuller.....	286	75 00
A. Dotton.....	210	1 50	Dewing & Sons.....	288	622 63
Pat Madigan.....	211	1 50	Den Bleyker Manf'g Co.....	289	406 87
H. Dyke.....	212	1 50	A. Cameron.....	290	992 59
H. Hadden.....	213	18 75	".....	291	32 50
J. McDonald.....	214	2 25	Ohio Building Stone Co.....	292	46 05
H. Scott.....	215	1 12	Carlyle, Connelly & Co.....	293	35 63
B. Mills.....	216	1 12	I. D. Bixby & Co.....	294	122 80
W. Hurlbut.....	217	1 12	Bush & Paterson.....	295	20 86
M. Cavanaugh.....	218	1 12	Tyler & Turner.....	296	38 37
C. Kimble.....	219	1 12	Dewing & Sons.....	297	258 83
W. Williamson.....	221	29 25	".....	298	16 01
D. Williamson.....	222	12 75	C. H. Dickinson.....	299	7 42
K. Morrissey.....	223	21 00	Bevans & Barkenbus.....	300	2 35
A. Barents.....	224	33 90	J. S. Davison.....	301	2 00
H. Walworth.....	225	19 87	J. DeVisser & Co.....	302	12 15
W. Plow.....	226	33 75	Abraham Fitell.....	303	31 25
J. Twoortpoole.....	227	18 90	E. Goodrich.....	304	8 25
E. W. Christian.....	228	31 50	William M. Quigley.....	305	4 50
M. Howehider.....	229	15 15	H. Grant.....	306	27 00
John Daffey.....	230	38 25	J. T. Welch.....	307	14 25
John Laughlin.....	231	30 37	H. Hadden.....	308	15 00
E. Keifer.....	232	28 50	A. Barents.....	309	2 25

STREET AND BRIDGE FUND—CONTINUED.

NAME.	Order No.	Amount.	NAME.	Order No.	Amount.
L. Sinon	310	\$ 12 75	Benj. Stewart.....	387	\$ 13 50
E. Christian.....	311	28 50	Ed. Goodrich	388	38 00
M. Howehider.....	312	75	H. Hadden	389	27 15
George Bilkert.....	313	5 25	E. Morrissey.....	390	3 30
B. Plow	314	3 00	John Laughlin	391	3 00
Ed. Morrissey.....	315	21 75	John T. Welch.....	392	18 00
K. Morrissey.....	316	4 50	M. O'Brien	393	16 50
W. Williams.....	317	75	A. M. Rose	394	19 65
W. Plow	318	5 25	Daniel Hastings	395	19 25
John Daffey	319	3 00	M. Van Antwerp.....	396	7 87
James Davis.....	320	12 00	John Dingman	397	22 65
John Mahoney	321	7 50	Henry Younger.....	398	21 15
John VanCiss.....	322	12 00	F. Wilsco	399	22 65
B. Arnold	323	1 50	Albert Aldrich.....	400	22 65
John Trecht.....	324	1 12	J. Roe.....	401	21 90
C. Weirs	325	75	Thomas Henderson.....	402	30 20
John DeBeck.....	326	1 12	James Irving.....	403	22 65
J. McAllister.....	327	6 00	J. M. Webb.....	404	10 50
T. Harrigan.....	328	1 50	J. Roach.....	405	3 75
A. Wheeler.....	329	75	Adam Wildermuth	406	1 50
John Van DeHook	330	1 50	George Peterman.....	407	12 15
M. O'Brien	331	31 50	Florian Ebert.....	408	9 00
A. M. Rose	332	23 18	Henry Johnson.....	409	14 62
J. Van Kriken	333	8 25	Adam Bezeman.....	410	14 62
A. Keifer	334	7 50	A. Cameron	411	24 00
John Laughlin	335	75	James McGrail	412	8 00
Daniel Hastings	336	7 87	Samuel Slater	413	7 50
M. Van Antwerp.....	337	3 50	J. C. Parker	414	7 50
William Boyd.....	338	2 25	William Parker.....	415	9 37
Thomas Owens.....	339	14 25	B. F. Stewart.....	416	7 87
Ben Shott	340	9 75	J. Gilbride.....	417	6 37
Frank Ellsworth.....	341	56 25	Edgar Hawley.....	418	62 25
Fred Allen	342	7 50	H. McAllister.....	419	31 50
John Jones	343	6 00	F. Ellsworth.....	420	60 00
J. R. Leavens.....	344	1 50	Thomas O'Meara.....	421	7 50
Ed. Hawley	346	9 00	William Kelly.....	422	33 75
Pat DeVinc.....	347	6 00	J. R. Leavens.....	423	42 75
H. McAllister	348	12 00	L. H. Alexander.....	424	6 00
E. Wilson.....	349	15 00	Patrick Devine.....	425	42 30
William Kelly.....	350	22 50	Joseph Fry	426	15 00
George Fuller	351	30 00	J. G. Groves	427	23 80
H. Fuller	352	25 50	George Young	428	43 80
L. H. Alexander.....	353	42 00	John Hastings.....	429	45 30
J. H. Fuller	354	50 00	W. Owens.....	430	45 30
Charles Rice.....	355	42 00	Ed. Mack	431	45 30
Abraham Fitell.....	356	33 75	H. McHugh.....	432	36 90
James Davis.....	357	3 00	T. O'Meara	433	39 30
Edward Carter.....	358	31 00	Eli Harrison.....	434	30 30
Allen Russell.....	359	1 50	John Galman.....	435	17 25
Hiram Van Dyke.....	360	12 00	F. McAllister.....	436	15 00
J. C. Hoffman.....	361	16 50	F. Leonard.....	437	3 00
J. C. Davison.....	362	2 00	Dan Myron.....	438	54 75
Dewing & Sons	363	331 46	F. W. Barnard	439	24 00
I. D. Bixby & Son.....	364	4 90	F. Woodhams.....	440	1 50
H. J. Fuller.....	365	8 64	C. Forbes.....	441	8 00
C. H. Dickinson.....	366	10 57	J. H. Fuller	442	50 00
J. DeVisser & Co.....	367	40	Abraham Fitell.....	443	32 50
Bevens & Barkenbus.....	368	15	Edward Carter.....	444	13 00
A. Cameron	369	25 00	A. Domino.....	445	4 12
Charles Winner.....	370	45	A. Flippesa.....	446	7 50
Koli Thabeau.....	371	5 25	J. L. Davison.....	447	2 00
S. Tobey.....	372	13 50	H. J. McHugh.....	448	4 00
L. H. Stewart.....	373	1 25	Dewing & Sons	449	135 22
Koli Thabeau.....	374	1 13	Bush & Paterson.....	450	24 45
S. Tobey.....	375	4 51	I. D. Bixby & Son.....	451	52 02
W. E. Ely	376	9 37	Tyler & Turner.....	452	49 61
A. Cameron	377	1 50	Smith & Woodard.....	453	11 55
K. Van Gilder.....	378	16 87	Parsons & Wood.....	454	3 60
H. Van DeMire.....	379	22 12	Bevens & Barkenbus.....	455	4 60
John VanCiss.....	380	2 62	Ohio Building Stone Co.....	456	85 70
M. Van Kriken.....	381	20 25	M. S. & L. S. Ry. Co.....	457	57 30
D. W. Christian.....	382	26 25	Charles Winner.....	458	1 03
W. Plow	383	14 25	Millard & Glynn	459	100 00
Henry Grant.....	384	31 87	L. H. Stewart.....	460	1 50
L. Sinon	385	22 50	Silas Tobey.....	461	6 33
B. Plow	386	13 87	A. J. Fuller.....	462	2 73

STREET AND BRIDGE FUND—CONTINUED.

NAME.	Order No.	Amount.	NAME.	Order No.	Amount.
Cent Schippers.....	463	\$ 3 00	W. L. Welch.....	542	\$ 82 67
Nicholas Highma.....	464	12 00	J. L. Davison.....	543	2 00
John Daffey.....	465	24 00	J. B. Millard.....	544	114 00
John Sanford.....	466	18 75	Page Manf'g Co.....	545	34 23
Henry Johnson.....	467	18 00	Dewing & Sons.....	546	188 13
Peter Phillips.....	468	18 00	Bush & Paterson.....	547	16 89
John Van Hake.....	469	8 25	Tyler & Turner.....	548	89 99
James Gilbride.....	470	16 50	Rowley & Dewater.....	549	7 00
J. C. Parker.....	471	15 00	Smith & Woodard.....	550	1 90
C. R. Parker.....	472	18 00	C. H. Dickinson.....	551	19 00
B. F. Stewart.....	473	27 75	Fisher & Co.....	552	1 25
Samuel Slater.....	474	18 00	J. W. King.....	553	25
James McGrail.....	475	24 00	L. Molhoek.....	554	12 75
John Kimerick.....	476	2 25	C. Molhoek.....	555	10 00
L. Simon.....	477	45 37	Mrs. H. M. Ellis.....	556	15 15
W. Plow.....	478	13 12	Den Bleyker Manf'g Co.....	557	11 63
John Sager.....	479	18 00	C. H. Caryle.....	558	5 00
John Fletcher.....	480	12 00	Henry Younger.....	559	11 25
Hiram Van Dyke.....	481	24 75	M. G. Taft.....	560	6 38
Ira Davis.....	482	3 00	E. M. Gay.....	561	75
Ben. Busma.....	483	8 25	J. S. Collins.....	562	2 63
B. Plow.....	484	18 37	A. Cameron.....	563	63 00
Henry Grant.....	485	28 12	E. S. Goodrich.....	564	36 37
H. McAllister.....	486	5 00	L. Simon.....	565	33 00
Henry Stewart.....	487	12 00	J. C. Parker.....	566	20 25
Ed. Morrisey.....	488	7 12	N. Beauregard.....	567	4 50
K. Van Gilder.....	489	10 12	John Ver Ciss.....	568	16 50
H. Devine.....	490	6 37	Henry Grant.....	569	19 50
D. W. Christian.....	491	9 37	H. Hadden.....	570	3 00
John Van Ciss.....	492	1 50	D. W. Christian.....	571	11 25
E. S. Goodrich.....	493	10 55	J. Van Trecht.....	572	3 00
Charles McCarthy.....	494	1 50	N. Bymers.....	573	12 00
M. O'Brien.....	495	56 35	B. Plow.....	574	21 75
A. M. Rose.....	496	34 12	E. Bastan.....	575	10 50
Dan Hastings.....	497	39 80	J. Yager.....	576	21 75
Thomas Henderson.....	498	12 00	H. Van Dyke.....	577	30 00
James Irwin.....	499	9 00	H. McAllister.....	578	43 00
Henry Tucker.....	500	12 00	J. Green.....	579	29 25
J. Peterman.....	502	9 00	J. McAllister.....	580	6 75
Albert Aldrich.....	503	1 50	J. Daffey.....	581	14 25
H. Hadden.....	505	9 00	A. Barents.....	582	15 75
Frank Wilsco.....	506	6 75	H. Vandermith.....	583	8 25
J. Roe.....	507	6 75	J. Shanley.....	584	3 00
N. Bymers.....	508	2 25	E. Morrisey.....	585	8 25
Edward Kaston.....	509	2 25	M. O'Brien.....	586	38 00
James Skeetee.....	511	3 00	A. M. Rose.....	587	22 75
J. DeBatt.....	512	4 50	Dan Hastings.....	588	30 62
A. Clapp.....	513	3 75	Hugh Gorman.....	589	21 75
Z. Burnett.....	514	3 00	Charles Hatfield.....	590	15 75
William Kelly.....	515	89 25	Henry Younger.....	591	1 50
J. R. Leavens.....	516	42 00	James Irwin.....	593	32 75
Frank Vanzee.....	517	39 00	A. Vroegendewey.....	594	1 50
Thomas Owens.....	518	36 00	James Irwin.....	595	4 50
W. F. Cummings.....	519	30 00	John Van Hake.....	596	1 50
George Jones.....	520	34 50	J. R. Leavens.....	597	54 00
E. D. Hawley.....	521	72 75	Ed. Hawley.....	598	67 50
Pat Devine.....	522	27 00	F. Ellsworth.....	599	36 00
Ben Shott.....	523	34 50	William Kelly.....	600	60 00
Frank Ellsworth.....	524	36 00	Tom Owens.....	601	42 00
F. McAllister.....	525	33 00	Ben Shott.....	602	18 00
Frank Leonard.....	526	63 00	George Jones.....	603	31 95
Hugh McHugh.....	527	28 50	Frank Vanzee.....	604	59 25
Leonard Molhoek.....	528	30 00	W. Owens.....	605	4 50
Thomas O'Meara.....	529	30 00	Joseph Fry.....	606	9 00
John Hastings.....	530	3 00	A. Cameron.....	607	42 75
G. Young.....	531	3 00	H. McAllister.....	608	64 50
W. Owens.....	532	3 00	T. Pountain.....	609	18 00
E. Mack.....	533	18 00	T. Myron.....	610	18 00
Eli Harrison.....	534	15 00	J. Daley.....	611	9 00
J. D. Groves.....	535	36 50	W. Plow.....	612	10 50
A. Cameron.....	536	4 50	A. Fitell.....	613	33 75
H. McAllister.....	537	6 00	Edward Carter.....	614	26 00
John Galman.....	538	9 00	L. Molhoek.....	615	4 65
Dan Myron.....	539	75	Dan Myron.....	616	16 80
Joseph Fry.....	540	4 50	Tyler & Turner.....	617	63 52
Abraham Fitell.....	541	32 50	I. D. Bixby.....	618	24 38

STREET AND BRIDGE FUND—CONTINUED.

NAME.	Order No.	Amount.	NAME.	Order No.	Amount.
Dewing & Sons	619	\$ 8 16	Wm. Kelly.....	695	\$ 20 00
Bush & Paterson.....	620	48	E. Wilson.....	696	12 00
Bochove & Son.....	621	6 08	C. Domino.....	697	8 00
C. H. Dickinson.....	622	18 64	John Pitts.....	698	15 00
John DeVisser.....	623	7 50	W. L. Root.....	699	24 00
Prindle & Larned.....	624	1 40	J. DeVisser & Co.....	700	66
Smith & Woodard.....	625	55	I. D. Bixby & Son.....	701	18 55
Bevens & Barkenbus.....	626	11 63	Parsons & Wood.....	702	40
Day & Hare.....	627	2 25	W. H. Russell.....	703	9 00
A. Cameron.....	628	5 00	William Ritchie.....	704	1 25
L. Simon.....	629	25 87	J. McSweeney.....	705	2 25
H. Grant.....	630	29 99	Tyler, Turner & Co.....	706	16 98
H. VanDyke.....	631	20 62	W. A. Doyle.....	707	20 00
E. S. Goodrich.....	632	22 87	M. O'Brien.....	708	5 00
Ed. Morrissey.....	633	27 37	Dan Hastings.....	709	4 38
D. W. Christian.....	634	20 25	James Clark.....	710	3 00
Wm. Whiteside.....	635	75	A. M. Rose.....	711	3 12
Ed. Rhodes.....	636	6 75	Emmet Phillips.....	712	3 00
James McGrail.....	637	6 00	William Whiteside.....	713	13 50
John VerSiss.....	638	6 00	Jacob Scharer.....	714	75
Calvin Forbes.....	639	5 25	Dan Hastings.....	715	75
H. McAllister.....	640	9 00	Noble Graham.....	716	5 62
John Yager.....	641	3 75	L. Simon.....	717	1 87
C. Meringa.....	642	8 25	A. Barents.....	718	3 00
A. Pyle.....	643	4 85	H. Younger.....	719	2 55
Isaac Lardner.....	644	3 00	Ed Morrissey.....	720	6 75
M. O'Brien.....	645	34 35	Joseph Fry.....	721	1 50
Dan Hastings.....	646	26 25	William Kelly.....	722	1 50
A. M. Rose.....	647	18 75	George Fuller & Son.....	723	17 25
James Clark.....	648	13 50	J. R. Leavens.....	724	2 25
John Unsell.....	649	7 12	Henry Fuller.....	725	9 00
H. Gorman.....	650	1 56	Edward Carter.....	726	22 00
F. McAllister.....	651	23 25	A. Fitell.....	727	27 50
George Jones.....	652	15 00	J. A. Pitts.....	728	22 00
Ben Shott.....	653	15 00	W. L. Root.....	729	20 00
W. L. Everett.....	654	3 00	C. D. Root.....	730	26 50
L. Molhoek.....	655	9 00	C. Domino.....	731	10 00
Thomas Owens.....	656	70 50	E. Wilson.....	732	16 00
William Kelly.....	657	52 50	E. D. Hawley.....	733	32 00
H. Fuller.....	658	53 25	George Jones.....	734	17 00
Ed. Hawley.....	659	56 25	William Kelly.....	735	20 00
J. R. Leavens.....	660	4 50	Prindle & Larned.....	736	90
George Fuller & Son.....	661	47 50	John McSweeney.....	737	2 25
A. Fitell.....	662	32 50	H. J. McHugh.....	738	1 50
E. Carter.....	663	26 00	Charles McCarthy.....	739	6 37
Parsons & Wood.....	664	2 75	William Dorn.....	740	9 00
Smith & Woodard.....	665	45	D. Smith.....	741	75
W. H. Jones.....	666	7 00	John Barnes.....	742	9 75
I. D. Bixby.....	667	23 16	L. Simon.....	743	4 50
L. Molhoek.....	668	17 00	J. T. Welch.....	744	2 62
Calvin Forbes.....	669	39 20	E. Morrissey.....	745	14 25
Charles Wimmer.....	670	60	M. Linnelman.....	746	13 12
Joseph Fry.....	671	1 00	Jacob Scharer.....	747	6 00
J. McSweeney.....	672	2 90	K. Marchant.....	748	9 75
G. H. Lynau.....	673	6 80	E. Bunker.....	749	4 50
Millard & Glynn.....	674	100 00	William Krondyke.....	750	6 00
J. R. Leavens.....	675	25 00	Pat Dorn.....	751	9 75
H. Grant.....	676	6 00	W. Gifford.....	752	6 00
D. W. Christian.....	677	3 75	J. McAllister.....	753	14 25
L. Simon.....	678	13 12	H. McAllister.....	754	4 50
Barrett Beginners.....	679	1 87	George Fuller.....	755	18 00
John Brown.....	680	5 25	H. Fuller.....	756	28 50
James Davis.....	681	3 75	H. McAllister.....	757	27 00
Charles Wimmer.....	682	25	Thomas Owens.....	758	28 50
George Jones.....	683	12 00	William Kelly.....	759	6 00
William Kelly.....	684	12 00	E. Carter.....	760	24 00
H. McAllister.....	685	1 50	A. Fitell.....	761	25 00
Henry Fuller.....	686	15 00	John Pitts.....	762	20 00
Ed Hawley.....	687	16 60	W. L. Root.....	763	27 00
John Galman.....	688	3 75	George Jones.....	764	26 00
George Fuller & Son.....	689	34 50	E. D. Hawley.....	765	30 00
J. R. Leavens.....	690	6 00	William Kelly.....	766	29 00
Edward Carter.....	691	27 00	C. D. Root.....	767	17 00
A. Fitell.....	692	33 75	C. Domino.....	768	12 00
George Jones.....	693	14 00	E. Wilson.....	769	16 00
Edward Hawley.....	694	14 00	H. Vanness.....	770	3 00

STREET AND BRIDGE FUND—CONTINUED.

NAME.	Order No.	Amount.	NAME.	Order No.	Amount.
A. Cameron	771	\$ 45 00	L. Karstange	791	\$ 6 00
Bevans & Barkenbus.....	772	8 77	William Kromdyke.....	792	2 62
J. McSweeney	773	2 25	Garret Fleugel.....	793	1 50
Kalamazoo Publishing Co	774	5 00	William Dorn.....	794	3 00
Millard & Glynn.....	775	100 00	M. O'Brien.....	795	3 00
J. E. Welsh.....	776	15 75	J. Parker.....	796	1 50
E. Morrisey.....	777	6 00	Thomas Owens	797	3 00
John Laughlin	779	5 25	H. McAllister.....	798	3 00
Charles McCarthy.....	780	11 25	H. Fuller.....	799	18 00
H. Martin.....	781	3 00	George Fuller.....	800	21 00
H. McAllister.....	782	3 00	A. Fitell.....	802	26 00
M. Linnehan.....	783	9 75	Edward Carter.....	803	26 00
Pat Doran.....	784	4 50	J. DeVisser & Co.....	806	2 20
William Clason.....	785	3 00	Bevans & Barkenbus.....	807	1 05
Noble Graham.....	787	6 00	C. H. Dickinson	808	43
John Laughlin	788	11 25	J. McSweeney	809	2 25
J. McAllister.....	789	1 50			
Noble Graham.....	790	11 62	Total.....		\$18,918 76

FIRE AND WATER FUND.

NAME.	Order No.	Amount.	NAME.	Order No.	Amount.
Vigilant Hose Co.....	1	\$ 125 00	Charles H. Ashby.....	43	\$ 40
George H. Chandler.....	2	100 00	Bird & Clarage.....	44	5 20
Charles A. Healey	3	60 00	C. H. Dickinson	45	3 71
William Hewitt.....	4	50 00	Parsons & Wood.....	46	5 59
Herman Watson.....	5	40 00	Kalamazoo Oil Co.....	47	45 98
Martin VanAntwerp.....	6	12 00	C. De Leuw & Son.....	48	3 50
Peter Kooiman.....	7	2 73	B. R. d'Arcambal.....	49	1 50
Fred Cellem.....	8	35	R. Smith & Son.....	50	88
Ihling Bros.....	9	12 96	Paindle & Larned.....	51	1 30
H. H. Everard & Co.....	10	9 50	Kalamazoo Gas Co.....	52	5 40
George W. Young.....	11	1 80	Bush & Paterson.....	53	2 11
C. H. Dickinson.....	12	35	Bird & Clarage.....	54	92 33
Lawrence & Chapin.....	13	50	John DeSmit	55	3 60
R. W. Southworth	14	35 40	G. J. Breemer.....	56	6 80
Kalamazoo Gas Co.....	15	4 86	M. Miller.....	57	14 40
Dewing & Sons	16	12 93	Frank Bodin.....	58	18 00
"	17	12 24	E. Woodhams.....	59	18 56
A. M. Tucker.....	18	1 25	J. De Kam.....	60	4 08
J. DeKam.....	19	24 72	J. DeVisser & Co.....	61	1 58
Thomas Dorgan.....	20	18 00	Bird & Clarage.....	62	9 46
Daniel Hastings	21	15 75	S. R. Pike	63	49 24
Thomas Dorgan.....	22	12 26	M. Mack.....	64	4 00
J. A. Campbell.....	23	3 80	John Stohrer.....	65	4 81
B. J. Healey.....	24	75 00	Thomas Dorgan.....	66	12 00
Edward Cope.....	25	50 00	"	67	5 88
Clarence Clark.....	26	40 00	Carr & Engleman.....	68	4 00
Edwin Smith.....	27	40 00	J. De Kam.....	69	13 63
Archie Warren.....	28	40 00	D. Hastings	70	2 00
Michael Rechtenwald.....	29	40 00	"	71	16 62
Fred Wildsmith.....	30	40 00	M. VanAntwerp	72	3 50
Frank Chichester.....	31	40 00	Thomas Dorgan	73	15 63
A. Healey	32	10 65	J. W. King.....	74	25
Struthers & Merrill.....	33	3 85	Fred Cellem.....	75	62 50
Bush & Patterson.....	34	1 72	B. J. Healey	76	75 00
B. J. Healey	35	5 00	Edwin Cope.....	77	50 00
Carr & Engleman.....	36	18 59	Edwin Smith.....	78	40 00
George H. Chandler.....	37	100 00	Clarence Clark.....	79	40 00
Charles J. Healey.....	38	60 00	Archie Warren.....	80	40 00
William Hewitt.....	39	50 00	Fred Wildsmith.....	81	40 00
Herman Watson.....	40	40 00	M. Rechtenwald	82	40 00
M. Van Antwerp.....	41	18 38	Walter Parish	83	32 50
Vpa Bymer.....	42	4 50	Willis Mosher.....	84	32 50

FIRE AND WATER FUND—CONTINUED.

NAME.	Order No.	Amount.	NAME.	Order No.	Amount.
J. DeVisser & Co.....	85	\$ 1 36	Bush & Paterson.....	161	\$ 14 17
Frank Henderson.....	86	2 70	J. DeVisser & Co.....	162	75
W. C. Davis.....	87	2 00	H. R. Worthington.....	163	9 50
George Fuller & Son.....	88	5 00	C. H. Dutton.....	164	5 55
John Dudgeon.....	89	37 50	Bevans & Barkenbus.....	165	7 81
B. J. Healey.....	90	75 00	Fred Cellem.....	166	6 20
Edwin Cope.....	91	50 00	Bevans & Barkenbus.....	167	75
Edwin Smith.....	92	40 00	Bird & Clamage.....	168	51 14
Clarence Clark.....	93	40 00	Charles Winner.....	169	1 20
Archie Warren.....	94	40 00	G. J. Breemer.....	170	1 40
M. Rectenwald.....	95	40 00	Buckhout Bros.....	171	45
Fred Wildsmith.....	96	40 00	M. VanAntwerp.....	172	17 50
Walter Parish.....	97	40 00	D. Hastings.....	173	19 70
Willis Mosher.....	98	40 00	".....	174	7 00
George H. Chandler.....	99	100 00	Thomas Dorgan.....	175	9 50
Charles A. Healey.....	100	60 00	J. DeKam.....	176	5 00
Wm. Hewitt.....	101	50 00	Thomas Dorgan.....	177	15 02
Hiram Watson.....	102	40 00	".....	178	30
M. VanAntwerp.....	103	1 50	B. J. Healey.....	179	75 00
Cornelius VanZee.....	104	7 50	Edward Cope.....	180	50 00
".....	105	3 00	Clarence Clark.....	181	40 00
K. VanAntwerp.....	106	16 25	Edward Smith.....	182	40 00
D. Hastings.....	107	8 75	Archie Warren.....	183	40 00
Fred Cellem.....	108	75 00	Walter Parish.....	184	40 00
Kalamazoo Gas Light Co.....	109	4 86	M. Rectenwald.....	185	40 00
Wilds Oil Co.....	110	30 60	Fred Wildsmith.....	186	40 00
J. DeVisser & Co.....	111	1 65	Willis Mosher.....	187	40 00
C. H. Dickinson.....	112	2 80	Rooney & Crain.....	188	16 69
Thomas Dorgan.....	113	2 63	C. R. Bonsell.....	189	10 56
".....	114	21 05	M. Israel & Co.....	190	6 50
Ypa Bymer.....	115	4 50	D. B. Merrill & Co.....	191	14 50
Thomas Dorgan.....	116	4 00	E. A. Carder & Son.....	192	6 87
Carr & Engleman.....	117	19 51	G. J. Breemer.....	193	5 00
J. DeKam.....	118	8 50	Charles LaBar.....	194	12 50
Crane Bro's Man'g Co.....	119	1 72	Thomas Dorgan.....	195	7 50
George Clark.....	120	14 94	Bush & Paterson.....	196	39 80
H. H. Everard & Co.....	121	33 00	R. Smith & Son.....	197	10 65
Ihling Bros.....	122	23 10	J. DeVisser.....	198	5 24
Kalamazoo Publishing Co.....	123	28 49	E. A. Carder.....	199	5 00
Fred Cellem.....	124	3 50	James Britton.....	200	7 55
Kalamazoo Tubular Well Co.....	125	119 26	Bevans & Barkenbus.....	201	6 44
Thomas Dorgan.....	126	1 00	George Fuller & Son.....	202	5 80
E. B. Chandler.....	127	262 00	Vigilant Hose Co.....	203	125 00
M. C. R. R. Co.....	128	2 07	Fred Cellem.....	204	75 00
John Dudgeon.....	129	40 00	H. H. Everard & Co.....	205	4 25
Henry Wagner.....	130	14 28	George H. Chandler.....	206	100 00
John DeVisser & Co.....	131	4 15	Charles A. Healey.....	207	60 00
DonBleyker Man'g Co.....	132	6 00	William Hewitt.....	208	50 00
J. A. Campbell.....	133	7 80	Herman Watson.....	209	40 00
Joseph Fry.....	134	18 00	Cornelius VanZee.....	210	15 75
Mort Yoe.....	135	12 35	M. VanAntwerp.....	211	26 25
J. Sutton.....	136	4 00	John T. Welch.....	212	2 25
Bird & Clamage.....	137	31 01	William Kelly.....	213	10 50
Bevans & Barkenbus.....	138	11 78	B. VanDepolder.....	214	3 00
E. A. Zander.....	139	17 50	C. VanStrine.....	215	10 65
Thomas Dorgan.....	140	2 70	C. Domino.....	216	3 37
Ben Shott.....	141	1 50	Edson Howard.....	217	43 41
Thomas Owens.....	142	1 50	A. Stinson.....	218	18 50
Fred Cellem.....	143	75 00	Adam White.....	219	7 00
Ihling Bros.....	144	1 20	M. C. R. R. Co.....	220	134 15
H. H. Everard & Co.....	145	25 45	J. DeVisser & Co.....	221	2 70
George H. Chandler.....	146	100 00	C. Hollestelle.....	223	3 00
Charles A. Healey.....	147	60 00	Parsons & Wood.....	224	1 65
William Hewitt.....	148	50 00	Kalamazoo Gas Co.....	225	4 50
Herman Watson.....	149	40 00	Bird & Clamage.....	226	57 87
K. VanAntwerp.....	150	2 75	Thomas Dorgan.....	227	6 23
C. VanZee.....	151	10 42	Bush & Paterson.....	228	20 64
M. VanAntwerp.....	152	5 55	J. DeKam.....	229	11 50
Ypa Bymer.....	153	2 25	M. VanAntwerp.....	230	3 00
A. Stinson.....	154	9 00	Cornelius VanZee.....	231	2 25
M. C. R. R. Co.....	155	8 00	Daniel Hastings.....	232	9 00
Kalamazoo Gas Co.....	156	5 40	Thomas Dorgan.....	233	2 65
G. W. Young.....	157	1 17	Bird & Clamage.....	234	16 83
Thomas Dorgan.....	158	5 28	Charles Winner.....	235	1 25
C. H. Dickinson.....	159	1 50	J. DeVisser & Co.....	236	30
Bird & Clamage.....	160	12 46	J. DeKam.....	237	10 00

FIRE AND WATER FUND—CONTINUED.

NAME.	Order No.	Amount.	NAME.	Order No.	Amount.
Thomas Dorgan.....	238	\$ 8 00	Bush & Paterson.....	315	\$ 2 00
Thomas Dorgan.....	239	10 68	Daniel Hastings.....	316	0 62
Carr & Engleman.....	240	23 53	M. McEvoy.....	317	3 75
William Ritchie.....	241	561 32	J. DeKam.....	318	13 95
John DeRicht.....	242	4 50	Fred Cellem.....	319	1 00
Henry Mussleman.....	243	4 50	Thomas Dorgan.....	320	16 62
John Kools.....	244	4 50	J. DeKam.....	321	13 75
William VanHalts.....	245	4 50	Carr & Engleman.....	322	11 73
J. VanDenimre.....	246	1 50	Wm. Ritchie.....	323	2,337 56
J. Moreland.....	248	4 50	U. Booi.....	324	4 50
William A. Doyle.....	249	8 25	James Doyle.....	325	4 50
Bush & Paterson.....	250	4 69	B. J. Healey.....	326	75 00
M. W. Roberts.....	251	115 15	Edward Cope.....	327	50 00
B. J. Healey.....	252	75 00	Archie Warren.....	328	45 00
Edward Cope.....	253	50 00	Edward Smith.....	329	40 00
Archie Warren.....	254	45 00	Walter Parish.....	330	40 00
Edward Smith.....	255	40 00	Clarence Clark.....	331	40 00
Clarence Clark.....	256	40 00	M. Rechtenwald.....	332	40 00
M. Rechtenwald.....	257	40 00	Fred Wildsmith.....	333	40 00
Walter Parish.....	258	40 00	Willis Mosher.....	334	40 00
Fred Wildsmith.....	259	40 00	W. C. Davis.....	335	2 55
Willis Mosher.....	260	40 00	J. Lum.....	336	13 86
M. Israel & Co.....	261	10 00	T. Taylor.....	337	8 90
Fire Extinguisher Manf'g Co.....	262	25 50	P. Rooney.....	338	9 89
J. H. Bunnell & Co.....	263	20 75	C. N. Pease & Son.....	339	3 00
George Ackley.....	264	2 00	J. W. Boynton.....	340	15 12
Parsons & Wood.....	265	10	Cornell & Co.....	341	2 50
D. B. Merrill & Co.....	266	21 50	Thomas Dorgan.....	342	16 80
W. C. Davis.....	267	2 50	C. H. Bird.....	343	245 12
J. DeVisser & Co.....	268	4 84	Fred Cellem.....	344	75 00
DenBleyker Manf'g Co.....	269	5 75	".....	345	6 08
U. S. Express Co.....	270	1 65	Kalamazoo Publishing Co.....	346	1 25
M. S. & L. S. R. R. Co.....	271	67	H. H. Everard & Co.....	347	2 50
G. J. Breemer.....	272	1 38	Ihling Bros.....	348	6 00
Bevans & Barkenbus.....	273	37 75	John DeVisser & Co.....	349	4 70
Bush & Paterson.....	274	19 14	George H. Chandler.....	350	100 00
Mort Yoe.....	275	8 50	Charles A. Healey.....	351	60 00
I. D. Bixby & Son.....	276	47 51	William Hewitt.....	352	50 00
J. Dudgeon.....	277	25 00	Herman Watson.....	353	40 06
Rice & Owens.....	278	410 00	M. VanAntwerp.....	354	40 00
U. Booi.....	279	4 50	Ypa Byrners.....	355	2 00
N. Kiser.....	280	4 50	Dewing & Sons.....	356	70 88
Fred Cellem.....	281	75 00	Puge Manf'g Co.....	357	144 00
".....	282	5 84	Edson Howard.....	358	158 29
George W. Young.....	283	50	Tyler & Turner.....	359	360 00
C. H. Caryl.....	284	1 69	M. C. R. R. Co.....	360	78 91
Ihling Bros.....	285	30 40	Joseph Fry.....	361	27 00
Kalamazoo Publishing Co.....	286	10 78	George Caster.....	362	49 50
A. J. Shakespeare.....	287	16 20	Ihling Bros.....	363	1 59
M. Ely.....	288	9 75	C. Holtestelle & Co.....	364	4 98
Thomas Dorgan.....	289	2 50	R. Smith & Son.....	365	2 73
George H. Chandler.....	290	100 00	Kalamazoo Oil Co.....	366	6 57
Charles A. Healey.....	291	60 00	C. H. Dickinson.....	367	10
W. Hewitt.....	292	50 00	Bevans & Barkenbus.....	368	25 00
H. Watson.....	293	40 00	Kalamazoo Gas Light Co.....	369	6 84
M. VanAntwerp.....	294	40 00	I. D. Bixby & Son.....	370	8 47
Ypa Byrners.....	295	2 00	Bush & Paterson.....	371	4 25
William Vine.....	296	36 00	William Ritchie.....	372	92 15
George Castor.....	297	12 00	P. Molhoek.....	373	4 00
C. VanStrine.....	298	4 50	D. Hastings.....	374	7 00
Edson Howard.....	299	194 60	Thomas Dorgan.....	375	14 65
A. Stinson.....	300	54 25	Carr & Engleman.....	376	13 29
E. White.....	301	37 50	W. VanNeryman.....	377	78
Dewing & Son.....	302	99 09	W. Ritchie.....	378	1,488 00
Tyler, Turner & Co.....	303	90 00	Winslow & Crooks.....	379	211 98
M. C. R. R. Co.....	304	138 95	E. W. Blatchford & Co.....	380	57 83
A. C. Hicks.....	305	3 00	G. B. Carpenter & Co.....	381	8 75
R. A. Stone.....	306	7 16	Bird & Chrager.....	382	72 35
Parsons & Wood.....	307	4 81	J. McSweeney.....	383	2 30
Kalamazoo Gas Light Co.....	308	5 40	John Patton.....	384	15 50
J. DeKam.....	309	9 89	W. J. McKerron.....	385	11 62
J. P. Donaldson & Co.....	310	3 50	Fred Sievers.....	386	12 37
Bush & Paterson.....	311	8 50	M. Oliver.....	387	8 63
Charles Winner.....	312	40	Fred Ebert.....	388	4 38
Nat'l Meter Co.....	313	47 00	Chas. Kimball.....	389	6 25
Fred Cellem.....	314	70	R. S. Hall.....	390	10 50

FIRE AND WATER FUND—CONTINUED.

NAME.	Order No.	Amount.	NAME.	Order No.	Amount.
H. VanDemire.....	391	\$ 9 00	Thomas Dorgan.....	468	\$ 8 91
W. H. Thompson.....	392	10 87	C. H. Dickinson.....	469	5 75
Peter Shiffers.....	393	11 62	J. DeKam.....	470	5 00
L. A. Wood.....	394	2 62	Dan Hastings.....	471	7 87
J. M. Biddle.....	395	1 88	J. DeKam.....	472	23 50
Michael McEvoy.....	396	6 00	Thomas Dorgan.....	473	43 99
John Galman.....	397	8 62	John Holmes.....	474	6 00
John VerCiss.....	398	7 12	B. J. Healey.....	475	75 00
Nicholas Conkling.....	399	50	Edward Cope.....	476	50 00
Joseph Fry.....	400	4 00	Archie Warren.....	477	45 00
Michigan Pipe Co.....	401	52 80	Edwin Smith.....	478	40 00
Joseph Fry.....	402	9 00	Clarence Clark.....	479	40 00
G. R. & I. R. R. Co.....	403	70	Michael Rechtenwald.....	480	40 00
B. J. Healey.....	404	75 00	Walter Parish.....	481	40 00
Edward Cope.....	405	50 00	Fred Wildsmith.....	482	40 00
Archie Warren.....	406	45 00	W. Mosher.....	483	40 00
Edward Smith.....	407	40 00	W. R. B. White.....	484	9 40
Clarence Clark.....	408	40 00	M. Israel & Co.....	485	3 75
M. Reutenwald.....	409	40 00	A. Hicks.....	486	2 00
Walter Parish.....	410	40 00	D. B. Merrill & Co.....	487	19 72
Willis Mosher.....	411	40 00	Bush & Paterson.....	488	5 02
Fred Wildsmith.....	412	40 00	Charles Winner.....	489	30
Conrad Miller.....	413	3 80	A. R. Costa.....	490	3 00
D. B. Merrill & Co.....	414	43 86	W. Ritchie.....	491	1,115 60
G. F. Sinclair.....	415	26 35	Fred Celem.....	492	75 00
F. Henderson.....	416	25 50	Fred Celem.....	493	13 60
R. Smith & Son.....	417	65	Ihling Bros.....	494	3 15
W. C. Davis.....	418	2 80	H. H. Everard & Co.....	495	6 75
J. DeVisser & Co.....	419	6 27	C. N. Pease & Co.....	496	2 00
L. S. & M. S. R. Co.....	420	45	A. J. Shakespeare.....	497	14 65
Bevans & Barkenbus.....	421	38 21	George H. Chandler.....	498	100 00
Bush & Paterson.....	422	4 28	Charles A. Healey.....	499	60 00
Prindle & Larned.....	423	1 48	W. H. Hewitt.....	500	11 29
Garrow & Butler.....	424	11 00	Herman Watson.....	501	47 74
J. Sutton.....	425	42 00	W. Caryl.....	502	30 97
E. B. Chandler.....	426	17 91	M. VanAntwerp.....	503	40 00
Vigilant Hose Co.....	427	125 00	N. Keyser.....	504	2 55
J. Dudgeon.....	428	75 00	Tyler & Turner.....	505	382 50
Fred Celem.....	429	75 00	Edson Howard.....	506	70 12
Ihling Bros.....	430	8 10	Dewing & Sons.....	507	327 37
Fred Celem.....	431	5 45	John Merrill.....	508	30 00
George H. Chandler.....	432	100 00	C. B. Smith.....	509	30 94
Charles A. Healey.....	433	60 00	Bird & Clarage.....	510	12 50
William Hewitt.....	434	50 00	M. C. R. R. Co.....	511	62 18
Herman Watson.....	435	40 00	George Castor.....	512	51 00
G. Vessey.....	436	12 25	Thos. Owens.....	513	27 00
A. DeKubber.....	437	1 75	Joseph Fry.....	514	21 00
N. Keyser.....	438	16 50	N. Beauregard.....	515	2 00
Wm. Kelly.....	439	1 50	Kalamazoo Gas Light Co.....	516	8 64
L. D. Rider.....	441	5 25	C. H. Ashby.....	517	1 24
Pace Manufacturing Co.....	442	25 20	Kalamazoo Oil Co.....	518	6 50
Tyler & Turner.....	443	450 00	B. Desenberg & Co.....	519	2 35
Dewing & Sons.....	444	109 69	Parsons & Wood.....	520	25
Edson Howard.....	445	13 87	Bird & Clarage.....	521	41 10
M. C. R. R. Co.....	446	45 76	J. DeSmith, Jr.....	522	8 20
Joseph Fry.....	447	7 72	Thomas Dorgan.....	523	70
George Castor.....	448	61 00	C. H. Dutton.....	524	6 40
R. Smith & Son.....	449	2 00	Bush & Paterson.....	525	10 62
Kalamazoo Gas Light Co.....	450	7 02	Winslow & Crooks.....	526	64 80
Bush & Paterson.....	451	6 75	J. DeVisser & Co.....	527	16 32
J. DeVisser & Co.....	452	6 38	Florence Iron Works.....	528	458 00
W. Ritchie.....	453	20 73	Holly Manufacturing Co.....	529	72 00
Lakey & Bigelow.....	454	7 00	Holly Manufacturing Co.....	530	42 00
Thomas Dorgan.....	455	3 00	Chapman Valve Mfg. Co.....	531	62 50
I. D. Bixby & Son.....	456	3 45	Buckhout Bros.....	532	35
M. O'Brien.....	457	2 00	Bohove & Son.....	533	2 40
Dan Hastings.....	458	1 75	John Patton.....	534	2 00
John Patton.....	459	11 00	John VerCiss.....	535	3 75
John Galman.....	460	3 00	H. VanGilder.....	536	4 12
John VerCiss.....	561	2 25	H. VanDemire.....	537	4 12
M. McEvoy.....	462	1 00	A. Lindbrod.....	538	4 12
M. VanAntwerp.....	463	40 00	W. Kloosen.....	539	4 12
James Domino.....	464	50	Henry Fuller.....	540	2 25
Parsons & Wood.....	465	1 50	George Jones.....	541	3 00
Fisher & Co.....	466	50	H. McAllister.....	542	1 50
John McSweeney.....	467	1 25	Charles Winner.....	543	3 52

FIRE AND WATER FUND—CONTINUED.

NAME.	Order No.	Amount.	NAME.	Order No.	Amount.
I. D. Bixby's Son	544	\$ 2 50	Kalamazoo Publishing Co.....	620	\$ 5 00
Thos. Dorgan.....	545	1 63	Wm. B. Clark & Son.....	621	22 95
Thomas Dorgan.....	546	9 37	A. C. Hicks	622	2 00
J. DeKam.....	547	5 00	W. C. Davis.....	623	3 10
Daniel Hastings.....	548	17 05	R. A. Stone.....	624	6 63
Holly Mfg. Co.....	549	15 00	Conrad Miller.....	625	7 60
Bush & Paterson.....	550	60	E. A. Carder & Son.....	626	2 00
S. Wolff Mfg. Co.....	551	2 40	W. R. B. White.....	627	19 27
W. Ritchie.....	552	274 94	George McDonald.....	628	25 35
Winslow & Crooks.....	553	33 00	E. B. Chandler.....	629	134 55
George H. Vessey.....	554	9 45	Thomas Dorgan.....	630	71
N. Kiser.....	555	4 05	Vigilant Hose Co.....	631	125 00
Daniel Harrigan.....	556	13 50	Fred Cellem.....	632	75 00
B. J. Healey.....	557	75 00	"	633	1 89
Edwin Cope.....	558	50 00	M. Ely.....	634	10 80
Archie Warren.....	559	45 00	Dan Hastings.....	635	11 47
E. P. Smith.....	560	40 00	Thomas Dorgan.....	636	1 50
C. E. Clark.....	561	40 00	"	637	5 75
M. Rechtenwald.....	562	40 00	George H. Chandler.....	638	100 00
W. M. Parish.....	563	40 00	Charles A. Healey.....	639	60 00
Fred Wildsmith.....	564	40 00	Herman Watson.....	640	50 00
Willis Mosher.....	565	40 00	W. F. Caryl.....	641	50 00
American Fire Hose Co.....	566	446 37	M. Van Antwerp.....	642	43 20
Warswick Mfg. Co.....	567	125 50	A. M. Tucker.....	643	2 50
J. DeVisser & Co.....	568	2 50	George Fuller & Son.....	644	17 25
E. Weeks.....	569	2 00	L. Simon.....	645	12 37
J. DeKam.....	570	1 35	Jasper Marchant.....	646	3 75
W. C. Davis.....	571	2 05	Adam Sliss.....	647	8 25
Conrad Miller.....	572	11 40	Toledo Oil Co.....	648	61 39
W. R. B. White.....	573	7 12	J. G. Smith & Son.....	649	1 10
D. B. Merrill & Co.....	574	19 20	Kalamazoo Oil Co.....	650	19 38
Cobb & Hunter.....	575	15	Kalamazoo Gas Light Co.....	651	6 30
T. Taylor.....	576	8 80	Bush & Paterson.....	652	1 05
Bush & Paterson.....	577	2 37	Thos. Clarage & Son.....	653	30 57
Garrow & Butler.....	578	17 25	Dan Hastings.....	654	16 88
Fred Cellem.....	579	75 00	B. J. Healey.....	655	75 00
Fred Cellem.....	580	3 70	Edward Cope.....	656	50 00
Ihling Bros.....	581	4 02	Archie Warren.....	657	45 00
Kalamazoo Publishing Company.....	582	2 52	Edward Smith.....	658	40 00
George H. Chandler.....	583	100 00	Clarence Clark.....	659	40 00
Charles A. Healey.....	584	60 00	M. Rechtenwald.....	660	40 00
Herman Watson.....	585	50 00	Walter Parish.....	661	40 00
Wm. Caryl.....	586	40 00	Fred Wildsmith.....	662	40 00
M. VanAntwerp.....	587	16 90	Willis Mosher.....	663	40 00
Dewing & Sons.....	588	72 00	G. McDonald.....	664	7 00
Tyler & Turner.....	589	45 00	W. R. B. White.....	665	19 05
John Merrill.....	590	20 00	John Dudgeon.....	666	4 06
C. B. Smith.....	591	10 62	Fred Allen.....	667	2 25
C. H. Bird.....	592	8 75	Dan Harrigan.....	668	12 00
Phillip Schau.....	593	129 56	D. B. Merrill & Co.....	669	18 27
L. S. & M. S. R. R.....	594	5 00	Bevans & Barkenbus.....	670	6 40
M. C. R. R.....	595	25 90	John Dudgeon.....	671	75 00
George Castor.....	596	6 00	Fred Cellem.....	672	6 85
Thomas Owens.....	597	7 50	H. H. Everard & Co.....	673	5 50
Kalamazoo Gas Light Co.....	598	9 00	C. H. Caryl.....	674	1 40
Kalamazoo Oil Co.....	599	17 01	Daniel Hastings.....	675	7 00
J. A. Reeves.....	600	1 50	Thomas Dorgan.....	676	3 00
George McDonald.....	601	5 84	J. DeKam.....	677	14 65
Wm. Ritchie.....	602	105 88	George H. Chandler.....	679	100 00
Thomas Dorgan.....	603	7 14	Charles A. Healey.....	680	60 00
Thomas Dorgan.....	604	5 25	William Hewitt.....	681	50 00
Wm. Ritchie.....	605	61 00	W. T. Caryl.....	682	50 00
Daniel Hasting.....	606	11 81	M. VanAntwerp.....	683	31 20
Charles Wimmer.....	607	2 30	Thomas Owens.....	684	6 00
J. DeKam.....	608	50	Adam Sliss.....	685	3 00
J. T. Welsh.....	609	50	C. H. Dickinson.....	686	4 20
Thomas Dorgan.....	610	2 00	Elson Hill & Co.....	687	20 79
B. J. Healey.....	611	75 00	J. DeVisser & Co.....	690	53
Edward Cope.....	612	50 00	William Ritchie.....	691	755 56
Archie Warren.....	613	45 00	C. H. Dickinson.....	692	38 88
Edwin P. Smith.....	614	40 00	John DeSmit, Jr.....	693	50 00
Clarence B. Clark.....	615	40 00	A. & H. Wilcox.....	694	13 50
M. Rechtenwald.....	616	40 00	B. J. Healey.....	695	75 00
W. M. Parish.....	617	40 00	Edward Cope.....	696	50 00
Fred Wildsmith.....	618	40 00	Archie Warren.....	697	45 00
Willis Mosher.....	619	40 00	Edward Smith.....	698	40 00

FIRE AND WATER FUND—CONTINUED.

NAME.	Order No.	Amount.	NAME.	Order No.	Amount.
M. Rechtenwald.....	699	\$ 40 00	D. B. Merrill & Co.....	709	\$ 1 24
Walter Parish.....	700	40 00	J. DeVisser & Co.....	710	3 34
Fred Wildsmith.....	701	40 00	Bevans & Barkenbus.....	711	7 60
Willis Mosher.....	702	40 00	Wm. Wagner.....	712	34 50
Chas. Russell.....	703	29 26	C. H. Dickinson.....	713	40
W. R. B. White.....	704	28 97	Fred Cellem.....	714	75 00
R. A. Stone.....	705	6 50			
C. B. Mitchell.....	706	2 25	Total.....		\$27,365 88
Cobb & Hunter.....	708	5 25			

GENERAL SEWER FUND.

NAME.	Order No.	Amount.	NAME.	Order No.	Amount.
Charles Winner.....	1	\$ 11 10	Charles Winner.....	50	\$ 25 75
Parsons & Wood.....	2	45	Carlyle, Connelly & Co.....	51	354 96
Charles Winner.....	3	9 20	L. Sinon.....	52	1 87
Joseph Fry.....	4	21 00	Joseph Fry.....	53	12 00
John Laughlin.....	5	8 25	William Kelly.....	54	3 75
George Bilkert.....	6	3 00	M. Ely.....	55	2 25
Carlyle, Connelly & Co.....	7	525 87	F. M. Hawley.....	56	10 05
G. R. & I. R. R. Co.....	8	228 00	W. A. Doyle.....	57	1,288 46
George S. Pierson.....	9	1 99	Bush & Paterson.....	58	111 90
Charles Winner.....	10	12 05	A. & H. Wilcox.....	59	2 60
W. H. & O. W. Brundage.....	11	6 10	W. A. Doyle.....	60	3 00
W. E. Ely.....	12	58 13	Thomas Dorgan.....	61	20 33
Ihling Bros.....	13	5 25	A. H. Freeman.....	62	1 50
H. H. Everard & Co.....	14	3 75	M. Ely.....	63	4 88
Jay Everett.....	15	45 30	Charles Blaney.....	64	7 25
Carlyle, Connelly & Co.....	16	137 41	W. A. Doyle.....	65	37 50
G. R. & I. R. R. Co.....	17	35 81	".....	66	5 00
S. Tobey.....	18	75	Charles Lotz.....	67	17 50
Joseph Fry.....	19	9 50	W. G. Paterson.....	68	26 25
Bush & Paterson.....	20	27 80	W. E. Ely.....	69	31 25
Bird & Clarage.....	21	50 20	G. S. Pierson.....	70	3 49
Thomas Dorgan.....	22	7 61	H. H. Everard & Co.....	71	17 00
".....	23	6 69	Ihling Bros.....	72	25 65
John DeVisser & Co.....	24	95	Carlyle, Connelly & Co.....	73	152 52
Charles Winner.....	25	19 85	I. D. Bixby & Son.....	74	31 83
Thomas Dorgan.....	26	42 00	Joseph Fry.....	75	9 00
William A. Doyle.....	27	75	F. M. Hawley.....	76	3 00
".....	28	628 48	A. G. Fuller.....	77	75
W. E. Ely.....	29	66 25	Bush & Paterson.....	78	42 50
Silas Tobey.....	30	75	Thomas Dorgan.....	79	21 28
Charles Blaney.....	31	4 50	Jay Everett.....	80	16 90
Charles Winner.....	32	9 20	Bird & Clarage.....	81	119 06
J. DeVisser & Co.....	33	65	J. DeVisser & Co.....	82	8 00
Jay Everett.....	34	17 25	W. A. Doyle.....	83	20 00
Bird & Clarage.....	35	66 58	Prindle & Larned.....	84	20
Thomas Dorgan.....	36	35 82	Charles Winner.....	85	23 90
Joseph Fry.....	37	5 25	M. C. Taft.....	86	4 50
F. M. Hawley.....	38	14 25	Charles Blaney.....	87	6 25
Buse & Paterson.....	39	104 95	W. A. Doyle.....	88	1 13
William A. Doyle.....	40	75	Charles Winner.....	89	1 70
Parsons & Wood.....	41	15 05	W. A. Doyle.....	90	1,011 54
Parsons & Wood.....	42	5 09	H. H. Everard & Co.....	91	7 50
William A. Doyle.....	43	1,134 86	Ihling Bros.....	92	2 60
W. E. Ely.....	44	47 06	Carlyle, Connelly & Co.....	93	168 12
Ihling Bros.....	45	30 50	Joseph Fry.....	94	5 63
Kalamazoo Publishing Co.....	46	7 14	Bush & Paterson.....	95	57 75
A. J. Shakespeare.....	47	8 33	Charles Blaney.....	96	6 50
W. A. Doyle.....	48	26 60	M. C. Taft.....	97	4 51
A. J. Fuller.....	49	1 20	A. H. Freeman.....	98	3 12

GENERAL SEWER FUND—CONTINUED.

NAME.	Order No.	Amount.	NAME.	Order No.	Amount.
G. S. Pierson.....	99	\$ 4 22	Thomas Dorgan.....	121	30 00
Parsons & Wood	100	81	Delos Phillips	122	30 00
Thomas Dorgan.....	101	31 47	Thomas Dorgan.....	123	9 25
W. A. Doyle	102	36 77	Charles Winner.....	124	10 30
Charles Winner.....	103	22 73	Jay Everett.....	125	7 50
Kalamazoo Publishing Co.....	104	12 69	George S. Pierson.....	126	3 35
W. A. Doyle.....	105	1,100 00	Charles Winner.....	127	11 10
George Torrey.....	106	8 66	F. M. Hawley.....	128	3 00
Ladies' Library Association.....	107	7 33	Rebated Sewer Tax.....	129	175 17
D. Burrell.....	108	3 88	W. E. Ely	130	14 38
Mrs. H. J. Fuller.....	109	5 50	C. H. Caryl.....	131	4 40
M. D. Woodford.....	110	8 66	George S. Pierson	132	5 12
W. A. Doyle.....	111	134 50	J. DeVisser & Co.....	133	4 50
W. E. Ely	112	5 31	Jay Everett.....	134	28 20
Parsons & Wood	113	2 81	Thomas Buckley & Co.....	135	111 83
H. H. Everard & Co.....	114	13 50	Charles Winner.....	136	21 95
Bird & Clarage.....	115	114 60	J. A. Campbell.....	137	2 00
Thomas Dorgan.....	116	40 97	A. H. Freeman	138	75
Bush & Paterson.....	117	6 17	Delos Phillips.....	139	15 00
J. DeVisser & Co.....	118	1 20			
J. DeKam	119	3 55	Total.....		\$9,321 86
Charles Winner.....	120	15 40			

EVENING SESSION.

Pursuant to adjournment the Council met at half past seven, with Mayor Potter presiding.

Present—Ald. Fuller, Hotop, Ihling, Lakey, Page, Palmer, Rose, Schlick and Winslow.

Mayor Potter stated that the reports of the committees and officers having been received the order of business would be the closing of all unfinished business pertaining to the Council.

Alderman Lakey offered a resolution, which was adopted, authorizing the publication of the annual reports of the various committees and city officers, and that propositions be received for such work; a contract to be made with the lowest responsible bidder.

On motion Ald. Ihling and Ald. Hotop were instructed to destroy the last of the city bonds. The bonds were then destroyed by burning in presence of the Council.

Alderman Page offered the following resolution:

WHEREAS, We, as members of the City Council of the city of Kalamazoo, deem it fitting that we express the sincere regard felt by us for Allen Potter, our city mayor. Therefore,

RESOLVED, That we do hereby tender him our sincere thanks for his great kindness and the many courtesies extended to us as members and as a body. Reliable at all times when called upon for aid either in consultation with members or committees, sound in judgment, wise in counsel, at all times courteous as our presiding officer, and ever willing to share the burdens imposed on us as public officials. We feel justified in saying we deem it an honor to be members of a body presided over by him, a man who in all ways has been so faithful to the trust given into his hands by the people. We shall remember with pleasure and gratification the year spent on the City Council under his judicious and equitable rulings, and trust that the future may hold for him many happy days and pleasant memories of his official connection with the Council of this city from which he now retires.

The resolution was put by Clerk Strong and unanimously adopted. Mayor Potter returned thanks in a few graceful words, thanking the Council and the committees for their work during the year, and their concise and valuable reports.

Alderman Lakey offered the following resolution which was unanimously adopted:

RESOLVED, That the Mayor and this Council hereby gratefully acknowledge the able and efficient manner in which our City Clerk, Chauncey Strong, has discharged the duties of his office during this, our first year under the city charter.

RESOLVED, That whatever success may have attended our efforts for the proper administration of the affairs of the city amid the peculiar difficulties of this first year under the city government, is largely due to his thorough mastery of the duties of his office under the new charter, to his professional training and ability, and his kindly helpfulness to individual members of the board; and

RESOLVED, That for these kindly offices the thanks of this board are due and are hereby tendered.

Mr. Strong returned thanks, and assured the Council of his grateful appreciation of their expression.

The official returns for the late election were then read by the Clerk. Such returns were accepted and ordered on file.

MAYOR POTTER'S EXAUGURAL.

Mayor Potter then addressed the Council as follows:

GENTLEMEN OF THE CITY COUNCIL—We met here one year since to assume the responsibilities incident to the new form of city government, that was thought best, by a large majority of our citizens to inaugurate.

We meet to-night in order to render a full account in detail and aggregate, by reports of committees, clearly showing the whole range of receipts and disbursements during the past year; so that all may understand fully our action.

I shall make no attempt at any recapitulation of committee reports, but submit them without comment, assuming my share of responsibility for all errors of judgment during the year.

With the greater experience of the incoming Mayor and City Council, I should be inclined to leave the future policy without recommendation, but in view of the urgent necessity of a better fire protection, I may be pardoned a few suggestions, by stating that a new pumping station is already completed of ample size and thorough construction, covering every future event.

After a most thorough investigation of pumping engines a contract was made with the Holly Manufacturing Co., to build and put in place one of three million gallons capacity per diem and guaranteed equal to the best service yet attained—with ample security taken for faithful performance. I specially desire to call your attention to a plan of enlarged water mains prepared by Water Commissioner Cellem and Engineer Chandler, which plan upon full consideration by the present Fire and Water Committee was adopted by a unanimous vote of the present Council. Personally I should regard it a duty neglected, were I to omit recommending the laying of the mains of that portion of the plan adopted, to-wit: From the water works on Burdick street to Kalamazoo avenue, and on Main street from Rose street to the Michigan Southern railroad, this would I think guarantee an efficient fire service to nearly all block property representing several millions of dollars in value and would I think increase to a great extent the service throughout our system.

To accomplish this, I would say exercise a fair degree of economy in all other directions for the current year and provide by taxation sufficient funds to meet this most pressing want at the earliest date possible.

In conclusion, gentlemen of the Council, it is my privilege and pleasure to thank you for the uniform kindness I have received at your hands; to Mr. Strong, our very efficient Clerk; Mr. Cellem, our capable and pains-taking Water Commissioner; to Chief Engineer Chandler and his corps of faithful assistants, I cannot too highly commend; to Col. Wattles, our genial marshal and the police force, I owe much; to Captain Healy and men—promptness is ever the watchword, and action the order of business; to Treasurer Hays I return many thanks, for always paying city orders on presentation.

ALLEN POTTER.

Alderman Ihling moved that the Mayor's address be accepted and printed with the annual reports. Carried.

The new Mayor and Councilmen elect then came forward, filed their acceptance of the offices to which they had been elected, and City Clerk Strong administered to them the oath of office. The new Councilmen took their seats, and the retiring Mayor welcomed the incoming Mayor heartily, with the wish that he might say as many complimentary things about Mr. DeYoe, as that gentleman had said of him one year ago when the positions were reversed.

MAYOR DEYOE'S INAUGURAL.

Mayor DeYoe then said:

MR. MAYOR—I cannot enter upon the duties of the office you are about to vacate, without returning to you my hearty thanks for the kindly sentiments to which you have given utterance. This occasion sir, brings vividly to mind our cordial meeting and parting, but one short year ago, on this same memorable spot, when I had the honor as the last retiring president of the village of Kalamazoo, of conducting you to this chair, which I am assured you have most ably and acceptably filled as the first Mayor of the city of Kalamazoo. Upon your accession to the position of responsibility and trust, the people were congratulated upon the fact that the new city government had been committed to one worthy of their confidence and respect. That their reliance was well founded, your successful and impartial administration bears ample testimony. Accept in no flattering sense the assurance that your services under the trying ordeal of organizing and executing the laws governing our municipality during the first year of its corporate existence, are duly appreciated by our citizens, who with one accord may proclaim, “Well done, good and faithful servant.”

In resuming this responsible position, sir, as your successor, should I in the discharge of my official duties merit the same degree of commendation which has been awarded to your efforts, my gratification will indeed be full and complete.

GENTLEMEN OF THE COUNCIL—The prevailing custom for the past several years, makes it the duty of the presiding officer of the municipality to briefly address his council by way of prefacing and outlining certain matters in the performance of their official duties, and presenting such admonitory advice as judgment, investigation, experience and mature thought may suggest.

In entering upon the duties of the office of Mayor at this time it would be attended with a great degree of embarrassment were it not that I am reminded that the body over whose deliberations I am called upon to preside is composed of gentlemen of long continued acquaintance in whom I repose the greatest confidence and who command my highest respect, and each one of whom I doubt not will feel it his duty at all times during his official deliberations to render me all necessary aid on all questions of intricacy relating to municipal affairs which may from time to time present themselves.

It will certainly be my ambition to discharge the duties devolving upon me, in a manner that shall be conducive to harmony as our work shall progress. It would seem idle in me to admonish you gentlemen of the duties which lie before you. Men, all of you of practical business ability, engaged in various mechanical and mercantile pursuits, and which have prospered under your supervision, cannot fail to so conduct the municipal affairs of our city, in all its departments as to make it an example of progress, thrift and economy. The field of your labors is an extended one, composed of various departments, supervised by appropriate committees upon whose recommendations you will be called upon to act for what you may deem the best interests of the city, ever bearing in mind that the result of your labors should be of that character which shall be productive of the greatest good to the greatest number.

In all matters of necessity and improvements pertaining to the corporation, you will doubtless recognize the rule “that anything worth doing at all is worth doing well.” And that while on the one hand you would justly revolt against extravagance, on the other you would favor sufficient expenditure to attain permanent, beneficial and satisfactory results. As practical men, you would no doubt deem it unjust that any one department within your jurisdiction, should unduly thrive at the expense of some other; but that wisdom and fairness would dictate that all departments should receive their equitable share, in the distribution of works of necessity and improvements, thus demonstrating to the tax-payers that they all stand upon an equality, so far as becomes practicable. While we should in all things endeavor to be economical I trust that we will not be parsimonious, and that our efforts at economy will not be directed in reducing wages of our laboring men below a fair standard. The public is well able and willing to pay its laborers proper wages. The money paid to them is as bread upon the waters. By seeing that they are fairly compensated we help to provide for those who ask for our

protection and fostering care. Money paid in wages is better than money bestowed in charity.

I trust that all our city officers will appreciate the importance of giving their best efforts to subserve the public welfare. Let us all so work that we shall aid the general prosperity of the city, and in such a manner that we will receive the approval of the public whose servants we are.

Alderman Winslow moved that Mayor DeYoe's address be accepted and printed with the annual reports. Carried.

On motion of Alderman Ihling the Council proceeded to ballot for City Clerk with the following result:

Whole number of votes cast.....	11
Fred. Cellem.....	6
Chauncey Strong.....	5

Mr. Cellem was thereupon declared elected City Clerk.

On motion of Alderman Ihling the Council proceeded to ballot for City Water Commissioner. The ballot resulted as follows:

Whole number of votes cast.....	11
John McKee, Jr.....	6
Chauncey Strong.....	5

Mr. McKee was thereupon declared elected City Water Commissioner.

On motion of Alderman Hotop the Council proceeded to ballot for City Marshal with the following result:

Whole number of votes cast.....	11
John Lamb.....	6
Geo. N. Mason.....	4
S. H. Wattles.....	1

Mr. Lamb was thereupon declared elected City Marshal.

Alderman Winslow moved that the Council proceed to ballot for President of the Council pro. tem. Carried.

On motion of Alderman Hotop the Council took a recess of five minutes for consultation.

The following is the result of the ballot for President of the Council :

Whole number of votes cast.....	11
Otto Ihling.....	9
Ald. Hotop.....	1
Ald. Winslow.....	1

Alderman Ihling was thereupon declared elected President of the Council.

On motion of Alderman McCaffrey the council proceeded to ballot for City Attorney with the following result:

Whole number of votes cast.....	11
O. W. Powers.....	6
E. M. Irish.....	4
J. D. Burns.....	1

Mr. O. W. Powers was thereupon declared elected City Attorney.

On motion of Alderman Hotop the Council proceeded to ballot for City Health Officer with the following result:

Whole number of votes cast.....	11
Wm. Mottram.....	6
J. A. Partridge.....	4
H. D. Hemenway.....	1

Dr. Wm. Mottram was thereupon declared elected City Health Officer.

Mayor DeYoe gave notice that the matter of the appointment of policemen would be deferred until the next meeting. The Mayor then announced the following standing committees for the ensuing year:

STANDING COMMITTEES.

FINANCE—Ihling, Hotop, Waterbury.

FIRE AND WATER—McCaffrey, Waterbury, Fuller.

STREETS AND BRIDGES—Hotop, Schlick, Rose, Rowley, Ihling.

PUBLIC GROUNDS AND BUILDINGS—Winslow, Waterbury, McCaffrey.

SEWERAGE—Waterbury, Hotop, Fuller, McCaffrey.

POLICE—Waterbury, Winslow, Schlick.

HEALTH—Rose, Levy, Rowley.

GAS—Schlick, Rose, McCaffrey.

PRINTING—Rowley, Hotop, Schlick.

LICENSE—Fuller, Levy, Rowley.

CLAIMS—Levy, Ihling, Winslow.

STREET RAILWAY—Hotop, Winslow, Fuller.

ORDINANCE—McCaffrey, Winslow, Powers, Ihling.

Council then adjourned subject to call.

ADDENDA.

In consequence of the resignation of O. W. Powers, as City Attorney, the following changes became necessary:

City Attorney elected, Wm. G. Howard.

Committee on Ordinances changed as follows: Edward McCaffrey, Geo. C. Winslow, Otto Ihling, Wm. G. Howard, Fred. Cellem.

CALL No.

1885.

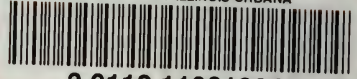
ACCESSION No.

21778

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